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Editorials

GUESTS' ENTERTAINMENT PROGRAM AT THE ILLINOIS STATE MEDICAL SOCIETY MEETING IN MAY. MAKE HOTEL RESERVATIONS EARLY

The Will County Medical Society is doing everything possible to make the Eightieth Annual Meeting of the society at Joliet, May 20-22, the best in the history of the organization.

We are planning an elaborate entertainment for the ladies. We are confident that all guests will be delighted with the royal entertainment we are arranging for them.

Members wishing to play golf should bring their outfits with them. Joliet is noted for its golf courses and no doubt many will avail themselves of this opportunity.

Members desiring to make hotel reservations should get in touch with Dr. Roy B. Leach, local chairman of the hotels and information committee, at 204 Scott Street, Joliet, Illinois.

B. G. Wilcox, M. D.,
General Chairman, Joliet, Illinois.

WHAT WE HAVE PLANNED FOR YOU IN JOLIET MEETING OF THE STATE MEDICAL SOCIETY

"There is gold in them thar hills," is an old phrase coined during the great Gold Rush, but it is apropos to use it now in connection with the golf tournament arranged for the visiting physicians during the meeting of the Illinois State Medical Society at Joliet this year. Not that we have rich purses to offer the winners but if you pivot with care and your divots as well as your score are of modest proportions you may be well rewarded for your efforts. The trophies are donated by members of the local Medical Society. This will be a handicap affair. The one who has the lowest net score will receive a beautiful silver loving cup; the next prize will

be a driver; while the third prize will be three dozen old, delapidated golf balls. However, the last prize is merely tentative, for obvious reasons the committee decided to take under advisement the generous offer of one of our (Scotch) colleagues, in the hope that he will have a change of heart.

This event will take place on Tuesday, May 20, 1930, at the Joliet Country Club. We have a sporty eighteen hole course that will put your golfing skill to a test. All you have to do is to register and you will be provided with transportation and a ticket which entitles you to play all day if you wish. You may niblick your way with confidence and approach the 19th hole with a feeling that our Clubhouse has well provided for the golfer's comfort. however, it might not be amiss to remind you that:

"There was an old man of St. Ives
Who married and buried three wives;
They were stalwart and stout
But he wore them all out
By his chatter of putts and drives."

Since not all of our colleagues are golf minded the committee has arranged to make available the Riding Academy to lovers of this sport. You may ride to your heart's content over bridle paths winding through seven hundred acres of sylvan paradise in the Pilcher Arboretum, considered the most beautiful natural park in the State. Or, if you prefer you may go to the Y. M. C. A. and enjoy yourself in the swimming pool, gymnasium and hand ball courts.

Speaking of indoor sports, you cannot afford to overlook the stag on Tuesday evening as the committee in charge has amply provided for your entertainment there. See you in Joliet.

BERNARD KLEIN, M. D.,
Chairman of Entertainment Committee.

INFORMING THE DOCTORS AND EDUCATING THE CANDIDATES BEFORE THE PRIMARIES

The following letters were sent out by our legislative committee to Illinois doctors and legislative candidates before the primaries April 8:

Dear Doctor: Enclosed please find a copy of a letter going to all candidates of record for the next General Assembly.

The council of the Society, through its Legislative Committee, sends out at frequent intervals during a legislative session a bulletin which is mailed gratis to all interested members. This keeps over a thousand physicians in the state in touch with such laws that have either a remote or a direct bearing on the practice of medicine.

It is most important for you to know the character and type of men of your district who are seeking the endorsement of the voters to represent them in the next Illinois State Legislature. It is indeed fitting and proper that the medical profession shall take a very active part, not only in the proposed bills introduced in the Legislature regarding the public health, but also in the type and capabilities of those who seek the very important duty of enacting such laws.

It is well to scan the list of candidates in your district. The chairman of the Legislative Committee, at Springfield, can furnish the records regarding the members seeking reelection as to their attitudes in previous sessions regarding health measures.

If the interest of physicians is not aroused in this day of political changes regulatory laws inimical to the medical profession are sure to appear. The officers of the Illinois State Medical Society, through the very able efforts of the editor of THE ILLINOIS MEDICAL JOURNAL, have fought valiantly for years to place Illinois in a most enviable position as to the status of medical matters. Illinois is one of the very few states which have a Medical Practice Act by which all who seek to treat human ailment are measured. This law is administered by a committee of five regular physicians, all members of the Illinois State Medical Society. There are no "drugless healer boards" or "special privilege" conflicting laws. Illinois was one of the few states which refused to co-operate with the Sheppard-Towner federal law, and this refusal was pivotal in the defeating of that law. Only the unified efforts of the physicians of Illinois will prevent the concurrence with a similar federal law if another is enacted in Washington. Again, Illinois is putting forth a strong protest against the proposed Federal Narcotic Commissioner. Only through the untiring efforts of the officers of your Society can such measures fail to gain endorsement.

It is imperative, therefore, that you take an individual interest in the primaries and the election which will decide the personnel of the

next General Assembly. Such interest on your part will evidence the endorsement of your officers and their legislative program.

Yours very truly,

J. R. Neal, M. D.,

Chairman Legislative Committee.

To the Candidate addressed:

As a candidate for the Illinois General Assembly you will be interviewed by many specialized groups interested in legislation to be opposed or favored.

At each session of the legislature many bills are offered which relate to the public health.

The Illinois State Medical Society is composed of thousands of physicians throughout the state, and through its officers makes an effort each session to inform the legislators as to the merits or necessity of any bill which is of general interest to the people of Illinois regarding their personal and community health.

The Illinois State Medical Society does not resort to sending large lobbies to Springfield to favor or to oppose any given measure. Neither does that society resort to the so-called "grateful patient endorsement," for the society is opposed to having thousands of letters from such sources sent in to Springfield to encumber the arduous duties of the legislator. The 1931 session of the Illinois Legislature will have many controversial subjects to deal with. A number of groups are extremely active at this time trying to gain favors or pre-election promises.

The Anti-Vivisectionists, an organization ably financed and largely sponsored by a group of excellent ladies, are attempting through false propaganda to tear down the very foundation upon which scientific medicine has been builded. They will attempt to put the love for a dog far in advance of the life of a child, or scientific care for animals themselves. Animal experimentation, as conducted by reputable colleges and laboratories, is not inhuman and there is no bestial brutality as the proponents for such a bill would have you believe.

The purpose of this letter is merely to ask that you keep your mind open and do not make promises without thoroughly investigating the good or evil of a measure. We would suggest that you do not promise your support to Medical Men, Anti-Vivisectionists, Chiropractors, Osteopaths, Naprapaths, Santologists, or any one of many groups who seek special privilege legislation.

There is an increasing effort upon the part of a number of well organized groups who, desiring lucrative positions and increased political power, have abandoned efforts to gain certain legislative measures in the forty-eight states, and have decided to concentrate their efforts at Washington and so obtain a national law; and then to crowd that national law down the throats of the state legislators for concurrence, thus robbing the individual state of its own sovereign rights. This class of legislation has always been opposed and always will be opposed by the Illinois State Medical Society.

The famous Sheppard-Towner Infant and Maternity Act was of this type, being passed by Congress and carried on for a period of five years, expiring in 1929. The government matched each state's appropriation with an equal amount of money to carry on the propaganda, and it is needless to say that a large portion of the money of the government is obtained from taxes originating in the forty-eight states. Carefully compiled statistics fail to show anything like a convincing argument that the five years' effort, and the several million dollars expended, had any effect whatsoever upon the mortality of mothers and children. Illinois, through its legislature, refused to participate in that law. The mortality statistics in Illinois compare favorably with those of the other states in the Union, and are even better than many of the states which accepted the federal subsidy.

An earnest effort is now being made in Congress to perpetuate a measure similar to the Sheppard-Towner Act. The Illinois State Medical Society is radically opposed to such a measure.

Other federal bureaus and commissions are being considered in Washington which would supersede state laws having a bearing on the same problem. All such commissions and bureaus which would have supervisory power over the practice of medicine are in our opinion wrong, as such regulatory laws should be enacted by the state of Illinois without federal aid or hindrance.

The Illinois State Medical Society will appreciate the opportunity to cooperate with the legislature in an effort to keep Illinois as one of the outstanding states of the Union where adequate

laws to protect the health of the citizenry of the State are concerned.

Yours very truly,
J. R. NEAL, M. D.,
Chairman Legislative Committee.

NOT PAIN BUT PROGRESS IS THE TARGET AT WHICH THE ANTI-VIVISECTIONISTS AIM. THEY LET WHOLESALE CRIMES AGAINST ANIMALS FLOURISH BUT WITH MAUDLIN SENTIMENTALITY THEY RAISE CAIN OVER VIVISECTION FOR THE SAKE OF MEDICAL PROGRESS

The anti-vivisectionists may emit howls that are long and loud and lusty over vivisection for the sake of medical progress, but it is to be noted that they are singularly quiet when it comes to vivisection for social convenience.

In fact the name of more than one strong anti-vivisectionist might be found among the committees and boards advocating sterilization of many classes of humans. Neither do they seem at all perturbed about the great number of castrations among domestic animals which might be placed conservatively at 100,000,000 cases. Anesthetics are not used in these cases, not even for the poor little bitches. But who hears protest from the anti-vivs on that? And where, oh, where is the S. P. C. A. on that topic? Nearly all of the operators in the bulk of these 100,000,000 cases know little of anatomy and far less of sepsis and even less of technic. Even under the best of circumstances this operation is of the classification denoted as "major" and there is plenty of attendant suffering and suffering that is quite unnecessary. It has been well said that not pain but progress is the target at which the anti-vivisectionists aim. Nor do they seem to be concerned about the frightful suffering and many preventable deaths among domestic animals caused by filth, cold, exposure, etc., in shipment and slaughtering of animals and the suffering and deaths caused dealers, fishermen, game and bird shooters and dealers.

The antivivisectionists let the wholesale crimes against animals flourish. But with maudlin sentimentality they raise cain over the comparatively small proportion of animal experiments conducted by scientists that result in benefits to animals as well as to the human race.

DR. TUITE—IN MEMORIAM

WHEREAS;—In the furtherance of His All-Wise Plan, our Divine Ruler of the Universe has raised our friend and colleague, John E. Tuite, a Past-President of the Illinois State Medical Society, to the higher service of His own purpose, and

WHEREAS;—Though we bow in reverence to the will of our Creator, we are deeply conscious of loss which Earth cannot regain, therefore,

Be It Resolved; That the minutes of the Council of the Illinois State Medical Society contain this record, our memorial tribute to a highly esteemed co-worker, Dr. John E. Tuite, who was called from his Earthly toil, on February 26th, 1930. We record the passing of a friend of many years standing, one who only recently, held the highest position of trust in our Society, and who filled it well, paying attention only to the interests of those he served, to the detriment of his own ailments. Efficient service, loyalty to fellow man, and faith, marked his efforts in his position of trust.

Be It Further Resolved;—That a copy of this appreciation of our loss be sent, in a spirit of mutual bereavement, to the family of Dr. John E. Tuite, and that it appear in the columns of the ILLINOIS MEDICAL JOURNAL.

E. H. WELD,
CLEAVES BENNETT,
HAROLD M. CAMP,
Committee.

WOMAN'S AUXILIARY

ILLINOIS STATE MEDICAL COCIETY

Coles-Cumberland County

"On March 7 the doctors of Coles-Cumberland County Medical Society met with the Woman's Auxiliary and had Dr. John R. Neal of Springfield as speaker.

"Following the luncheon Mrs. T. O. Freeman, president of the Coles-Cumberland Auxiliary, conducted a most interesting and instructive program on topics of the day pertaining to the welfare of medicine.

"Mrs. J. R. Neal, president of the state Aux-

iliary, spoke on the progress of the Auxiliary as a national organiaztion."

Sangamon County

"A woman's auxiliary of the Sangamon County Medical Society was organized at a tea, at which Mrs. J. R. Neal, Jr., president of the Woman's Auxiliary of the Illinois State Medical Society, entertained yesterday afternoon at Hotel Abraham Lincoln.

"Officers elected were: President, Mrs. Herbert Henkel; Vice-president, Mrs. M. G. Owen; Secretary, Mrs. Harry Otten, and Treasurer, Mrs. Robert Flentje.

"Mrs. R. P. Cowdin, counselor for the state auxiliary, and Mrs. Neal, outlined the objects of the organization.

"The next meeting will be held one month from yesterday."

Vermilion County

" 'Voltaire said the charlatan was born on the day that the first fool met the first knave. But the history of quackery proves that the quacks can fatten upon wise men as well as upon fools. It is not a lack of brains that breeds credulity but a dearth of knowledge. Mr. Barnum was credited with saying that the public likes to be humbugged. It does not. But it is humbugged to the extent that it lacks knowledge, and in the realm of therapeutics the public's lack of knowledge is great.'

"This was the opening statement in a lecture, 'Pink Pills for Pale People,' given by Arthur J. Cramp, M. D., director of the Bureau of Investigation of the American Medical Association, at an open meeting given by the Woman's Auxiliary to the Vermilion County Medical Society held Tuesday night at the Y. W. C. A.

"This was the first gathering of this nature ever given by this association, organized two years ago. The program was opened with a dinner at 6:30 for which there were 125 plates. Guests were seated at tables grouped to seat 10 or more. Each table represented some club or civic body of the city or county.

"The speaker's table was decorated with a large bowl of red roses and candles in the same color and the smaller tables had for a centerpiece a cluster of American flags. Red tapers lighted the tables.

"Mrs. Solomon Jones, auxiliary president, opened the meeting. She called upon the groups seated at the various tables to rise as she called the name of their organiaztion. The bodies represented were as follows: Danville Woman's Club and Federation of Woman's Club, Lake View Auxiliary, Y. W. C. A., St. Elizabeth Hospital, Altrusa Club, Business and Professional Women's Club, Salvation Army, the Municipal Dispensary, Red Cross and Associated Charities, Travelers' Aid, City School Nurses, Lake View Staff of Nurses, Musical Cycle, Vermilion County Bureau, Child Welfare.

"Mrs. Solomon Jones, representing the Woman's Auxiliary to the Vermilion County Medical Society, introduced Dr. Camp, a national authority and an interesting and entertaining speaker."

ILLINOIS CONGRESS OF PARENTS AND TEACHERS SPONSORS "SUMMER ROUND-UP" OF PRE-SCHOOL CHILDREN

One of the most important projects of the Illinois Congress of Parents and Teachers is the Summer Round-Up. The purpose of this movement is to attempt to correct all remediable physical defects in children of pre-school age, so that they may enter upon the school period free from physical handicaps.

This project is of great concern to the medical profession of Illinois. The Illinois Congress of Parents and Teachers has emphasized the importance of local Associations conducting the Summer Round-Up in cooperation with the local medical societies and has suggested that the examinations be given by the family physician with the approval of the County medical society, in the privacy of his own offices.

Mrs. C. W. Balch of Chicago, State Chairman of the Summer Round-Up, has sent the following letter to local Parent Teacher Associations:

"Dear President:

"The entire responsibility for the health of the pre-school child rests upon his parents. The home can make no greater contribution to the school than a scholar mentally and physically prepared to take advantage of what the school has to offer. In this belief the Illinois Congress of Parents and Teachers is recommending the 'Summer Round-Up of the Children', to send to school in the entering grade a class of children 100 per cent free from remediable defects. Regis-

tration blanks and promotional literature will be mailed you soon."

This Is the Way You Go About It

1. Consult school authorities to gain consent and cooperation.

2. Give advance publicity through the local newspapers, and present the plan at your regular meeting of the parent-teacher association.

3. Register with state chairman, name and address below.

4. Make a canvass to locate the children to be examined, using (a) house to house canvass; (b) kindergarten rolls; (c) cradle rolls; (d) names turned in by the school children.

5. Hold a "Round-Up" of the mothers of children to be examined, having talks made by a physician, a nurse and the campaign director, giving the mothers an opportunity to ask questions.

6. Determine method of examination, whether it is to be in the family physician's office or in a clinic at the school.

A. If examinations are to be in physicians' offices the local committee should:

a. Make arrangements with physicians for hours, and provide nursing and clerical assistance, if necessary.

b. Make whatever arrangements are necessary with the mother for having the child there at time specified.

B. If examinations are to be in a clinic at school or elsewhere, the committee should:

a. Secure assistance of physician, dentist, nurse, and parent-teacher members and mothers of the children.

b. Provide equipment after consulting with the physician in charge:

Tables	Tongue depressers
Wash basins	Towels
Paper napkins	Antiseptic solution
Medicated cotton	Tapeline
Pen and ink	Paper towels
Scales	Applicators
Water	Chairs

Important Note—Whichever method of examination is followed, office or clinic, in order to be a part of the great Congress Summer Round-Up movement, the *National Congress Examination Blanks,* furnished free upon registration, must be used.

Method of Conducting Examination

1. Arrange for physical examination, in room provided, with a parent-teacher member in charge, where the children can be undressed to the waist and a towel put around the child.

2. Physician and dentist examine child; nurse or parent-teacher member registers, weighs and measures the child, and fills in the National Record Blank supplied free of charge to Illinois Congress associations who have enrolled for Summer Round-Up.

3. Follow up the examination by visiting the parents of registered children in a friendly way to make sure that remedial work is being done.

The examination blanks which will be used for the Summer Round-Up are furnished by the American Medical Association.

The following letter has been sent out from the Educational Committee to the Presidents and Secretaries of County Medical Societies. Any questions concerning the procedure of the Summer Round-Up should be referred to the Committee at 185 North Wabash Avenue, Chicago.

March 21, 1930

Dear Doctor:

Our Educational Committee wishes to keep County Medical Societies informed of activities sponsored by lay groups with whom we are in direct contact. As you know, one of the major projects of the Illinois Congress of Parents and Teachers is the Summer Round-Up of Pre-School Children. The purpose of this movement is to attempt to correct remediable physical defects in children of pre-school age, so that they may enter upon the school period free from unnecessary physical handicaps.

This Parent Teacher Association movement is of great concern to the medical profession of Illinois, and the Illinois Congress of Parents and Teachers now realize that their work cannot succeed without the support of physicians.

Those responsible for the general plans of the Summer Round-Up have emphasized the importance of their local associations conducting these campaigns in cooperation with the local medical societies. They suggest that examinations be given by the family physician in his

office or in clinics—THE METHOD RESTS ENTIRELY WITH THE LOCAL COUNTY MEDICAL SOCIETY. Compensation is between patient and physician.

There is need for better cooperation and understanding between the local Parent Teacher Associations and the local medical groups. We therefore, hope that your Society will cooperate with representatives of your Parent Teacher Associations in making plans for satisfactory methods and arrangements for the Summer Round-Up. We recommend that you be cordial but firm in holding your local Associations to the plan of the State Congress, which does recognize a family physician responsibility.

Sincerely yours,

Chairman

Educational Committee,

ILLINOIS STATE MEDICAL SOCIETY

THE UNITED STATES HAS NO NEED OF ADDITIONAL PROHIBITIVE NARCOTIC DRUG LEGISLATION

The Proposed Porter Narcotic Control Bills Now Before Congress Are a Violation of the Constitution and Arbitrary Dictation of United States Government by Foreign Nations Under the Cloak of Treaty Making Powers

In the March issue of the Journal we called attention editorially to a number of serious objections to the Porter Bills. Our comment was largely from the viewpoint showing that there is at present ample statutory enactment to prevent any illegitimate infringement upon the necessary and legitimate dispensation of narcotic drugs. This editorially deals more especially with the legal phases of the proposed legislation.

Proponents of the Porter narcotic bill overlook entirely that the very conditions of their purposed legislation will entitle foreign governments and foreign nations to have even more power in the government of the United States than do legalized citizens of this democracy.

Here is a flagrant betrayal of the Constitution of the United States; of the heroic sacrifices of the men who laid down their lives in the world war and whose memory should not be so defiled within slightly more than a decade of their passing; and a deliberate contempt of every patriot since the Liberty Bell first rang out its message of independence.

There seems to be no end to what meddlesome matties are willing to do for the sake of a momentary flush of power. If their actions were dictated by a knowledge of existing conditions there might possibly be some degree of excuse for their offence. Ignorance is no excuse under any conditions, nor will it be any excuse for what will follow if this Porter bill goes through.

For, by the very conditions of this bill, and its international affiliations, the statues of the United States in direct defiance of the elements of the Constitution are entering into an alliance with foreign governments through which their treaty-making powers can usurp on occasion the vital elements of state rights and even of federal government in the United States.

It is to be wondered whether if Washington, Jefferson, Henry and Monroe were alive today, if such an idea might not be considered arch-treason? In 1776 the residents of this country had a habit of plain speech. Even the language of diplomacy was not obscure. With the progress of events and the development of science as this country has participated in laying bare the wonders of the invisible world it seems to have spread the layer of illusion over plain facts right at hand. Else, how could any sane patriot tolerate for an instant such an iniquitous piece of legislation as the Porter Bill?

The Harrison Narcotic Act is controlling drug addiction as well as it can be controlled, but the Harrison Narcotic Act is not wiping crime off the face of the earth, and until crime is abolished there will be no cessation of that drug traffic now controlling the underworld—a strata of society that find its present degree of organization practically superior to those of law and order. It would not appear that the Porter Bill would be a panacea for the existent and terrifying powers of crime. These are nourished and abetted by the Volstead Act, an amendment to the constitution that even when financed by a terrific tax upon the citizenry, the government finds itself powerless to enforce.

In the face of all this, with the proposed Porter act the innocent but not altogether igno-

rant bystander finds himself asking a few pertinent questions.

The International Convention for the Suppression of the Use of Opium and Other Drugs was signed at the Hague, Jan. 23, 1912. To this the United States was a party. Powers contracting—and this included the United States—bound themselves to make laws to confine opium and coca leaves and their salts, derivatives and compounds. to medicinal and other legitimate uses, *unless such laws were already in force.* The Porter Supplemental Narcotic Control Bill is out explaining and justifying itself that this legislation means no harm at all to the rights of American citizens; nor any treason to the Constitution of the United States. Only that it is out to make the United States keep its word to the convention. Isn't that nice of the Porter Bill, gentlemen. However, look under the edge of things and what do you see?

Having got this neat little declaration off its chest, the Porter Bill tacks back and resumes, the leitmotif of its lay.

For the Porter Bill declares that it intends to "prohibit every one from using narcotic drugs professionally and from dealing in them commercially unless a federal bureau chief has authorized him to do so. Except that the bureau chief cannot lawfully license narcotic addicts or persons convicted of violating narcotic laws, he may determine by regulations whom he will and whom he will not license, and under what conditions. If this bill is enacted and if it is constitutional, every state law in conflict with it will automatically become void to the extent of the conflict. Medical practice acts, pharmacy acts and poison acts of the states, so far as they relate to narcotic drugs, will give way to the federal mandate."

The Porter Bill. as can be readily seen is out to set a new fashion in democracy—God save the mark—in international politics and confidence games.

"Heretofore it has seldom been assumed that the federal government, by entering into a treaty with a foreign power to enact legislation supposedly of mutual benefit, can acquire authority to make laws in derogation of rights belonging to the states and to the people under the federal constitution."

Of course the gentle shepherds of the Porter Bill are quick to cry in unison that such abuses of treaty-making power are going to be very infrequent. A few bystanders may stop and ponder on the "life-for-a-pint" legislation contrasted with some reported drunken orgies in high places, very high and very close to the statute books that have shocked more than one community. It is always a terrible thing when mere man commences to think he is infallible. It is not a question of "infrequent abuse of treaty-making power." It is a question of *"NO abuse, and NO EXERCISE AT ALL of treaty-making power where the government of the United States is concerned."*

INTERNATIONAL ENCROACHMENT ON THE RIGHTS OF AMERICAN *CITIZENS SHOULD BE STOPPED BEFORE IT IS BEGUN.* The primary purpose of the Porter Bill seems to be to drug the American nation into an acceptance of high treason done up in an altruistic wrapper. Well has it been written that

"The proponents of the pending Porter Narcotic Control Bill would seem to excuse it by urging that such abuses of the treaty-making power are not likely to be frequent. But such an abuse should not occur at all. The time to prevent unconstitutional federal encroachment on the right of the states and of the people is when such encroachment first threatens, not after it has been established. The present problem concerns not only physicians, dentists, veterinarians, pharmacists and the sick and injured in need of narcotics, but every one who believes in maintaining the freedom of the people and of the states from unwarranted federal interference. Under our present system of government by the individual states as well as by the federal government. we have grown to our present position among the nations of the world. Let those who would jeopardize our freedom of thought and of action consider more carefully the past and the future. There are principles more important than the furthering of pet legislation."

It is indeed a matter of gratification that protests have been filed by the Board of Trustees of the A. M. A. against the enactment of these Porter Narcotic Bills—(H. R. 9053, A Bill to create in the Treasury Department, a Bureau of Narcotics, and for other purposes; H. R. 9054, A Bill to further carry into effect the interna-

tional convention for the suppression of the abuse of opium and other drugs signed at The Hague on January 23, 1912, and for other purposes). The protest has pointed out (1) that existing federal narcotic laws already provide adequate machinery for their enforcement by the Bureau of Prohibition; (2) that there is no evidence to show that, if the present enforcement machinery fails to function effectively, it does so because of any inadequacy in the laws now in force, or that any supposed inadequacy will be remedied by this bill; (3) that discretion with respect to the quantity of opium that may be imported annually is more safely vested as at present in the Federal Narcotics Control Board than it would be in a single commissioner, and (4) that the increase in the enforcement personnel proposed by this bill for the projected bureau of narcotics, if provided for the Bureau of Prohibition, which is now charged with the enforcement of the federal narcotic laws, will accomplish all that a similar increase could accomplish in the proposed bureau of narcotics and will do so without disrupting administrative procedure and destroying precedent, as must be done if the proposed bureau should be created.

"The protest filed against H. R. 9054 points out that the bill proposes to create another federal licensing system, with the primary purpose of taking from the states their rights to determine who may use narcotic drugs professionally and sell such drugs within those states. The bill, if enacted, would place the supreme control over such matters in one federal officer, the Commissioner of Prohibition. The trustees of the Association believe that the federal government should first ascertain whether the states allow unfit persons to use narcotic drugs professionally or to deal in them commercially, and then to give the states an opportunity to correct such evil conditions if they actually exist. If the federal government has evidence that any state is permitting unfit persons to engage in callings whereby they may control narcotic drugs, the evidence should be submitted to the offending states with a view to action. The trustees consider that the absolute prohibition by this bill of the licensing of persons convicted of violating any state or federal law relating to narcotic drugs is unreasonable, since conviction may be the result of purely technical offense, such as failure to register under the Harrison Narcotic Act before the last day allowed by law. The proposed bill recognizes absolutely no difference between the gravity of various offenses as far as the issue of licenses is concerned. There are laws now in many states which authorize the revocation of license of physicians who are drug addicts and which provide for the revocation of licenses following violation of the narcotic laws or for the commission of felony.

The trustees oppose the policy of concentrating in one officer in Washington the enormous authority that would be conferred on the Commissioner of Prohibition if H. R. 9054 should be enacted. His authority would be practically unlimited."

The Porter Bills are known as H. R. 9053 and H. R. 9054. H. R. 9053 is before the Ways and Means committee of the House of Representatives. The personnel of this committee is as follows:

Willis C. Hawley, Chairman, Oregon; Allen T. Treadway, Massachusetts; Isaac Bachrach, New Jersey; Lindley H. Hadley, Washington; Charles B. Timberlake, Colorado; Henry W. Watson, Pennsylvania; James C. McLaughlin, Michigan; Charles C. Kearns, Ohio; Carl R. Chindblom, Illinois; Frank Crowther, New York; Richard S. Aldrich, Rhode Island; Harry A. Estep, Pennsylvania; C. William Ramseyer, Iowa; Frederick M. Davenport, New York; James A. Frear, Wisconsin; John N. Garner, Texas; James W. Collier, Mississippi; Charles R. Crisp, Georgia; John F. Carew, New York; Henry T. Rainey, Illinois; Cordell Hull, Tennessee; Robert L. Doughton, North Carolina; Heartsill Ragon, Arkansas; Samuel B. Hill, Washington; Harry C. Canfield, Indiana.

H. R. 9054 is before the committee on Foreign Affairs. The personnel of the committee is as follows:

Stephen G. Porter, Chairman, Pennsylvania; Henry W. Temple, Pennsylvania; Hamilton Fish, Jr., New York; Cyrenus Cole, Iowa; Morton D. Hull, Illinois; Joseph W. Martin, Jr., Massachusetts; Charles A. Eaton, New Jersey; Henry Allen Cooper, Wisconsin; Edward E. Browne, Wisconsin; Melvin J. Maas, Minnesota; Franklin F. Korell, Oregon; W. M. Morgan, Ohio; Joe Crail, California; Edgar C. Ellis, Missouri; J. Charles Linthicum, Maryland; Charles M. Stedman, North Carolina; R. Walton Moore, Virginia; David J. O'Connell, New York; Sam D. McReynolds, Tennessee; Sol Bloom, New York; Luther A. Johnson, Texas; Ruth Bryan Owen, Florida.

Members of the respective committees from Illinois are Carl R. Chindblom, Henry T. Rainey and Morton D. Hull.

Doctors should write members of the committees protesting against the passage of the Porter Bill. Send your communication directly to the members at Washington, D. C., care House of Representatives.

THE PORTER NARCOTIC CONTROL BILL IS ABOUT AS DRASTIC BUREAUCRATIC CONTROL OF THE PRACTICE OF MEDICINE AS CAN BE IMAGINED.

If this bill becomes a law every physician, druggist, dentist and veterinarian in the United States must obtain a license to employ and use narcotics in his profession from the United States Commissioner of Prohibition, and by the regulations empowered in this bill, the commissioner appointed, prescribes the regulations that will govern the issuing, suspension and revocation of licenses.

Hundreds of times in the last decade the editor of the JOURNAL has called attention to the dangers of an over-centralized government and the attempt at bureaucratic control of everything and more especially to the dangers of a bureaucratic control of medicine.

The Porter Bill will put into the hands of the Federal Government bureaucratic control of the rights of the various states, a centralization of power unnecessary, uncalled for, and is an attempt of the federal government to control the practice of medicine. The medical profession should not allow this bill to become a law without strong protest. It is a forerunner of more drastic bureaucratic legislation by the bureaucrats who seek to place the control of everything in the hands of an over-centralized government in Washington, D. C.

TO JUDGE AND CONDEMN THE DOCTOR FOR WHAT HE FACES AND NOT BY WHAT HE HAS OVERCOME IS MANIFESTLY ABSURD AND UNFAIR

PERSUADE THROUGH PROPAGANDA A GULLIBLE PUBLIC THAT THE EASY ROAD TO THE PROMISED LAND WHERE THERE SHALL BE NO MORE SICKNESS, OR SORROW, OR DOCTOR BILLS, LIES THROUGH THE SOCIALIZATION OF MEDICINE AND THE DEED IS DONE

An epitome of the menace to medicine from economic sins is beautifully set forth in a recent issue of the Bulletin of the Wayne County Medical Society by Dr. L. L. Bigelow of Columbus, Ohio. The following excerpt is highly illuminating. We quote: To expect the physician, however, to be familiar with these multiple fields with their unnumbered variables, incapable of that precise, experimental, scientific study through which in his own domain, he has made such notable gifts to humanity; to enlarge thus the problem of medicine out of all reason; and to judge and condemn a doctor by what he faces and not by what he has overcome, is manifestly absurd and unfair.

In numerous articles, in the daily press, and in the weekly and monthly magazines of national circulation, the public is being insistently and persistently assailed with graphic accounts of the short comings and failures of medicine, and its exhorbitant charges. "Something must be done about it." The world is ruled by ideas that have the power of penetration and lodgment, or that can be made to penetrate and lodge. These writers, for the most part non-medical so-called experts, or those who are responsible for their lubrications are well aware of the physiological principle of the summation of afferent stimuli; and so the barrage is kept up, in the hope that the threshold of national stimulation will be reached, when something will be done about it. What that something is to be, is a matter of vital concern to the medical profession, and of still more vital concern to the public it serves.

If poverty and crime, unemployment and social unrest are due to a miscellaneous worthlessness of medicine in an economic world, of which every normally-attached tonsil, flat foot, deviated septum, or other remedial defect one meets on the street is quite convincing proof, then the problem of these institutes of human relationships is going to be tremendously simplified. Persuade through propaganda a gullible public that the easy road to the promised land where there shall be no more sickness, or sorrow, or doctor bills, lies through the socialization of medicine, and the deed is done.

Where in all this current discussion has it been brought out that the medical profession, dedicated to the alleviation of human suffering and prolongation of human life is ministering to the fundamental basis of all values of every kind—spiritual, intellectual, esthetic and material?

IT COSTS ONE HUNDRED TWENTY-ONE DOLLARS TO JOIN THE STATE AND COUNTY SOCIETIES OF CALIFORNIA

The following item is taken from the *New England Journal of Medicine,* March 27, 1930:

"Cost of membership in a State Medical Society." A note to Dr. A. K. Stone, treasurer of the Massachusetts Medical Society, from a doctor who has moved to the West contains the information that it costs one hundred and twenty-one dollars to join the state and county societies of California.

A fellow pays only eight dollars for the same privilege in Massachusetts. This is an argument in favor of generous support of our Society and the Library.

Figure out how much has been saved during the time a fellow has been a member of the Massachusetts Medical Society as compared with the California doctor. This may be an appeal for generous support of the Society and its coordinating body, the Boston Medical Library. An average contribution of one hundred dollars by each member of the Society now will bring the fund almost to the objective.

THE SPAN OF LIFE AND THE AVERAGE AGE AT DEATH ARE NOT SYNONYMOUS

A Feeling of False Security Has Been Engendered in the Average Mind Through the Fallacious Statement That the Average Age Has Been Doubled and the Span of Life Increased

The majority of people fail to distinguish between the span of life of the human race and the average age at death of individuals.

The expectation of life rather than the length of life is the utmost that the science of sanitation and public health work has been able to achieve.

Unfortunately the tremendous advances made in this direction have misled many over optimistic enthusiasts, into the belief that man has found methods for prolonging the span of life, of the race, and has added to its longevity.

This is not the case. More persons live to maturity before death overtakes them. The average life of individuals is greater but not the span of life. *There are no more centenarians nor "Grand old men" than within memory.* But improved sanitation and greater care has reduced infant mortality. *More babies grow up to die than did formerly,* but while the number of adult deaths has increased, the *age* of adult deaths or the span of life has not.

The expectation of life indicates the average age to which people may expect to live and the average age at death is analagous in its scope. The span of life indicates the maximum number of years that man may live, as a mortal being.

This distinction must be reckoned with before accurate statements and comparisons can be made.

Figures upon which optimistic statements are based result from the tremendous diminution of deaths during infancy and childhood. Elimination of preventable ills such as immunization against smallpox, diphtheria, typhoid fever, general hygiene's higher standards and better supervision of food and water supplies, and sewage disposal operate to make more men live longer. That is all. As Louis I. Dublin remarked before the American Public Health Association in October, 1929:

"Nothing has happened to encourage the hope that the span of life may be lengthened."

We have shown that there is a marked decrease in the preventable disease due to a lessening of contagion and the diseases due to malnutrition in infancy and childhood, on the other hand there has been a marked increase in what is known as the degenerative disease which appear after middle life such as heart disease, diseases of the arteries and circulatory system, cancer, Bright's disease. It is perfectly obvious, therefore, that the span of life has not been prolonged and that life still has its natural limitations.

EXAMINATION OF AUTOMOBILE DRIVERS SHOULD APPROXIMATE THAT OF DEPARTMENT OF COMMERCE FOR AIRPLANE PILOTS

That moral and mental fitness as well as physical standards should enter into requirements for automobile drivers as a public safety measure seems to be pretty well agreed upon. Cor-

roborations come from many sections of the results of the findings of the traffic committee of the medical society of the District of Columbia to the effect that relatively few motor accidents occur because of defects of sight and hearing but that many are due to defects of mental and moral responsibility.

There would seem to be necessary an extension of the automobile licensing law to make it imperative to demonstrate mental and moral fitness through an examination of applicants in this respect on the lines of the examination of airplane pilots as required by the Department of Commerce.

PRIVATE TAX PAYERS PAY BURDEN OF BUCK-PASSING THAT RUINS MEDICAL PROFESSION

Acceptance of the current tendency to pass responsibility to the federal or the state and municipal governments is resulting in a system of overcentralization of government that is not only devastating to democracy but that is piling up such a burden on the private taxpayer that citizens of the United States will soon be confronted with the unpleasant task of paying out their last cent for their own delivery into a state of socialistic despotism. Nowhere are the workings of this perniciousness more apparent than in the efforts to effectually centralize the practice of medicine.

Already sixty-two (62%) of all the hospitals in the United States are tax owned or tax supported by government. state, county or municipal assessment.

Correspondence

THE ILLINOIS STATE MEDICAL SOCIETY CAN SUCCESSFULLY SPONSOR AND CONDUCT CRIPPLED CHILDREN'S CLINICS, UNDER THE AUSPICES OF THE COUNTY SOCIETIES

To the Editor:

Some people have the idea, that the Illinois State Medical Society cannot sponsor and conduct Crippled Children's Clinics, under the auspices of the County Societies. I want to report a very successful clinic that has been in operation for the past three years, and is still going strong. Three years ago, the Warren County Medical Society asked the Scientific Service Committee, — A sub-committee of the Educational Committee, for assistance in conducting a Crippled Children's Clinic to be held in Monmouth. The Committee arranged with Dr. Philip H. Kreuscher, of Chicago, to come to Monmouth and to conduct the clinic, all arrangements were made by the Warren County Society.

Some years ago, we had had a Warren County Crippled Children's Association, organized to make a survey, solicit funds, and aid poor and worthy cripples, to get the proper care, braces, and supervision. Three local ladies have "carried on" the work that had been neglected by others. These ladies were told of our clinic plans, and asked to cooperate with us. This they have done to the maximum degree. When we had the first clinic, these ladies, with others, brought in as many crippled children as one clinician could care for, in one day. Records were kept in triplicate, one copy went to the family physician, one was retained in the Monmouth Hospital, where the clinics were held, and the other retained by the ladies, who hired the stenographers to take the histories, examination findings, and suggestions of the clinicians.

We have had these clinics regularly, every six months. They have been increasing in popularity. Members of the Warren County Society, and physicians from other cities, have attended them, and have profited by their attendance. It was gratifying to see many cases improved from time to time, as clinics were held, showing that the necessary follow-up work was being done.

On Wednesday, March 5, the regular Clinic was held. Dr. Kreuscher was assisted by Dr. S. C. Woldenberg of Chicago. An operative clinic was conducted in the forenoon, with interesting cases, one was a Sprengel's Deformity, in a lad of ten years. In the afternoon, both Dr. Kreuscher and Dr. Woldenberg saw many patients. At this particular clinic, more new cases were in attendance, than have been seen at any clinic since that first clinic three years ago. We believe that the principal factor in the success of our clinic, has been the unusual degree of cooperation received from various organizations interested in this type of work. Realizing that clinics for the care of crippled children can only be satisfactorily conducted and managed by medically trained scientific people, these coopera-

tive organizations have been principally interested in getting patients to the clinic, and seeing that the proper after care is actually given by the family physician. Cooperation received has been 100 per cent., we have had no arguments, and no overlapping of work.

It is the opinion of the Warren County Medical Society, that any County Society desiring to conduct a similar Crippled Children's Clinic, can do so, by arranging through Miss Jean McArthur, the Secretary of the Educational Committee with the Scientific Service Committee of the Society. The Illinois State Medical Society has within its membership, many competent Orthopedic Specialists who will assist in every way possible to make such a clinic successful.

This work is no longer an experiment, as is shown in the case of the Warren County clinic which has been in operation for three years. The actual keynote of its success, has been cooperation.

HAROLD M. CAMP, M. D.

CONGRESSMAN RAINEY ACKNOWLEDGES PROTEST ON PORTER BILL

March 22, 1930.

Dear Doctor Morony,

Breese, Illinois.

I thank you for your communication with reference to the Porter Narcotic Bill. I assure you I will carefully scrutinize this bill. I do not want to support any measure which will be a handicap to physicians.

HENRY T. RAINEY,
Representative in Congress from 20th Illinois District.

UNITED STATES CIVIL SERVICE EXAMINATIONS

The United States Civil Service Commission announced the following open competitive examinations:

Senior Medical Technician, $2,000 a Year
Medical Technician, $1,620 a Year
(a) Bacteriology.
(b) Roentgenology.

Applications for senior medical technical and medical technician must be on file with the Civil Service Commission at Washington, D. C., not later than May 7, 1930.

The examinations are to fill vacancies in the positions of laboratorian and assistant laboratorian in the United States Veterans' Bureau, and in positions requiring similar qualifications.

The entrance salaries are $2,000 a year for senior medical technician, and $1,620 a year for medical technician. Higher-salaried positions are filled through promotion.

Competitors will not be required to report for examination at any place, but will be rated on their education and training, and on their experience.

Full information may be obtained from the United States Civil Service Commission, Washington, D. C., or from the Secretary of the United States Civil Service Board of Examiners at the post office or customhouse in any city.

ROENTGEN TREATMENT OF VAQUEZ'S DISEASE

From the cases referred to in the literature and from the experience of Guido Milani, San Francisco (*Journal A. M. A.*, Oct. 19, 1929), in two cases, he feels justified in concluding that roentgen therapy represents the most efficacious and the most certain means for the cure of Vaquez's disease, and, when it is well applied and regulated, and accurately supervised, gives brilliant and lasting results, arresting the fatal evolution of the disease. Only time and experience will tell how long the state of well being of these patients will last. Some months ago his first patient stated that the number of red corpuscles was about 5,000,000 and that she was in good health. Three years has passed since the last irradiation. As to the organs that must be irradiated, it is apparent that irradiations of the spleen have not given favorable results, though repeatedly tried. Irradiation of the flat bones will sometimes result in a slight improvement, which, however, is transient. In fact, in his first patient, after roentgen therapy of the sternum and of the vertebral column, a slight improvement was noticed, both in the number of red corpuscles and in the general condition; but after a short time the red corpuscles increased again and the condition of the patient became the same as before. In his second patient, roentgen therapy of the flat bones did not result in any improvement. When, on the other hand, the irradiations were applied to the long bones, the number of red corpuscles decreased to normal; the spleen returned to its physiologic limits; the high red coloring of the face diminished and the hemorrhages disappeared, as did all the other subjective secondary symptoms. The happy outcome of this therapy brings a clinical contribution of great value to the pathogenesis of this disease, because it shows clearly that the element responsible in the hematologic and clinical picture of the disease is the marrow of the long bones, on which the unknown etiologic factor acts almost exclusively, and it indicates the method to be followed in the treatment of polycythemia.

CRUEL AND UNUSUAL

An Aurora newspaper calls attention to a nursing bottle advertisement which concludes with: "When the baby is done drinking, it should be unscrewed and laid in a cool place under a tap. If the baby does not thrive on fresh milk, it should be boiled."—*Bottles.*

ILLINOIS STATE MEDICAL SOCIETY

EIGHTIETH ANNUAL MEETING
JOLIET, ILLINOIS
MAY 20, 21, 22, 1930

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Committee on President's Dinner—W. Hedges, *Chairman;* C. Barclay. J. Mitchell, W. McMahon and R. Watson.

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Committee on Women's Auxiliary—Marion Bowles, *Chairman;* Mrs. L. J. Fredrick, Mrs. A. L. Shreffler, Mrs. Roy Leach, Mrs. Grant Houston and Mrs. Bernard Klein.

Ladies' Entertainment

The Joliet Committee on Arrangements have not as yet announced definite plans for the entertainment of the ladies who will attend the meeting but they say that the ladies will be well cared for and that the Ladies' Committee is working out their program at this time, which will be announced in detail in the official program to appear in the May JOURNAL.

"The Stag"

After the opening meeting on Tuesday evening, May 20, 1930, the Will-Grundy County Society will be host to the visiting members of the male sex. The nature of the program has not yet been announced, as final details are not yet completed, but it will be of interest to all of the men at the meeting, and we have the assurance that we will be "royally entertained"

Meetings of the House of Delegates

Tuesday Afternoon, May 20, 1930

3:00 P. M.—Meeting called to order by the President F. O. Fredrickson, for reports of Officers, the Council, Committees and to transact other business to come before the House.

Thursday Morning, May 22, 1930

8:30 A M.—Meeting called to order by the President for election of Officers, Councilors, Committees, Delegates to the American Medical Association, report of Resolutions Committee and for the transaction of other business than may come before the House.

Secretaries' Conference

Tuesday Morning, May 20, 1930

10:00 A. M.—"The County Medical Society—Its Duties and Responsibilities in Relation to Public Health," Arlington Ailes, La Salle.

10:20 A. M.—"The County Medical Society and Its Relation to the Individual," Lee O. Frech, Decatur.

11:00 A. M.—"Problems and Responsibilities of the Medical Editor," Charles J. Whalen, Editor, Illinois Medical Journal, Chicago.

11:30 A. M.—"A Few Informal Remarks" Olin West, Secretary and General Manager, American Medical Association, Chicago.

General Sessions

Tuesday Evening, May 20, 1930

7:30 P. M.—Meeting officially opened by President, F. O. Fredrickson, Chicago.

Invocation — Reverend Walter McPherson, Pastor, Universalist Church. Joliet.

Address of Welcome, Honorable George Sehring, Mayor of Joliet.

Address of Welcome, Grant Houston, President, Will-Grundy County Medical Society, Joliet.

Report, Chairman of Committee on Arrangements, B. G. Wilcox. Joliet.

Address, Mrs. George Thomas Palmer, Springfield. (Subject to be announced.)

This meeting is open to the public.

Wednesday Afternoon, May 21, 1930

3:00 P. M.—Oration in Surgery, Dean D. Lewis, Professor of Surgery, Johns Hopkins

University Medical School, Baltimore. (Subject to be announced.)

Wednesday Evening, May 21, 1930

7:30 P. M.—President's Address, F. O. Fredrickson, President, Illinois State Medical Society, Chicago, "A Forward Look into Medical Practice."

8:00 P. M.—Oration in Medicine, Martin E. Rehfuss, Associate Professor of Medicine, Jefferson Medical College, Philadelphia, "Medicine of the Future—What Can We Expect?"

These addresses follow the President's Dinner in the Banquet Hall, Masonic Temple.

Thursday Afternoon, May 22, 1930

1:30 P. M.—Induction of the President-Elect, William D. Chapman, Silvis.

1:45 P. M.—Report of the House of Delegates.

President's Dinner

The Annual President's Dinner will be held at the Masonic Temple on Wednesday Evening, May 21, 1930, at 6:30. This is an interesting function, honoring our President F. O. Fredrickson, and the Past-Presidents of the Illinois State Medical Society will be guests at the dinner.

It is hoped that every member and guest attending the meeting will be present at the President's Dinner.

Dr. J. P. Simonds will act as toastmaster owing to the recent death of the immediate Past-President Dr. J. E. Tuite.

A suitable dinner program has been arranged by the Committee.

Tickets for the dinner can be procured at the Registration Desks, from the Chairman of the Banquet Committee, Dr. Walter Hedges, or from any member of the Committee.

The President's Address and the Oration in Medicine will follow the dinner, the meeting in charge of the first Vice-President, R. L. Green.

Women's Auxiliary

The Auxiliary is now arranging an elaborate and interesting program which has not yet been announced. Full particulars will be printed in the Official Program, to appear in the May Journal. It is hoped that the ladies will turn out in large numbers this year. The Auxiliary has been growing rapidly, as reports of officers to be given will show.

Section Programs

Section on Medicine

Frank Deneen, *Chairman*

I. D. Snorf, *Secretary*

Tuesday Afternoon, May 20, 1930

Chamber of Commerce

2:00 P M.—Milk Sickness, William E. Walsh, Morris.

2:30 P. M.—Mental Hygiene, Frank P. Norbury, Jacksonville. Discussion opened by Dr. Schroeder, State Criminologist.

3:00 P. M.—Physical Diagnosis, Logan Clendening, Kansas City, Mo. (By invitation.)

4:00 P. M.—Neurology in Its Relation to General Practice, LeRoy Sloan, Chicago.

4:30 P. M.—Differential Diagnosis of Angina Pectoris and Similar Pains Produced by Arthritis, Don Sutton, Chicago.

Wednesday Morning, May 21, 1930

9:00 A. M.—Granulocytosis, George Parker, Peoria.

9:30 A. M.—Chairman's Address, Frank Deneen, Bloomington.

10:00 A. M.—The Nature of Obesity, Louis H. Newburgh, Ann Arbor, Michigan. (By invitaton.)

11:00 A. M.—Colloids of the Blood Serum in Health and Disease, illustrated by films, Frank Wright, Chicago.

11:30 A. M.—Treatment of Paresis With Sulphur in Olive Oil, Charles F. Read, Chicago.

Wednesday Afternoon, May 21, 1930

Joint session with Section on Surgery.
3:00-6:00 P. M.:

1. The Mechanism of Posterior Occiput and the Application Thereto of Posture in Its Treatment (with illustrations), Gilbert Fitz-Patrick, Chicago.
2. Certain Aspects of Ectopic Surgery, A. J. Lennon, Joliet.
3. The Corporation Profession, Charles B. Reed, Chicago Medical Society, Chicago.
4. The Care of the Wounded of the Division in the Field, Major Roy K. Ogilvie, M. C., U. S. A.

Thursday Morning, May 22, 1930

9:00 A. M.—Abdominal Pain in Children, John F. Carey, Joliet.

9:30 A. M.—Prognosis of Nephritis in Children, Andrew Aldrich, Winnetka.

10:00 A. M.—Some Observations on the New Born, A. H. Parmelee, River Forest.

10:30 A. M.—Papers by Charles Stulik, Chicago, and Joseph Brenneman, Winnetka. Subjects to be announced.

SECTION ON SURGERY

Frank L. Brown, *Chairman*
J. H. Bacon, *Secretary*

Tuesday Afternoon, May 20, 1930

1:00 P. M.—Surgery of the Chest. Ralph B. Bettman, Chicago. Discussion opened by Don Deal, Springfield.

1:30 P. M.—Injuries to the Bony Spine as Related to Arthritis, Sumner L. Miller, Peoria. Discussion opened by John R. Harger, Chicago.

2:00 P. M.—A Few Essential Principles of Amputations, S. L. Governale, Chicago. Discussion opened by E. B. Montgomery, Quincy.

2:30 P. M.—The Surgical and Economic Problems of Infantile Paralysis. Edwin W. Ryerson, Chicago. Discussion opened by Hugh Cooper, Peoria.

3:00 P. M.—Principles Which Render Present Day Surgery of General Medical and Surgical Interest, George V. I. Brown, Professor of Plastic Surgery, University of Wisconsin, Milwaukee. (By invitation.)

4:00 P. M.—Symptoms of Ruptured Gastric and Duodenal Ulcer, E. P. Coleman, Canton. Discussion opened by Warren Johnson, Chicago.

4:25 P. M.—The Management of the Debilitated Surgical Patients. Rollo K. Packard, Chicago. Discussion opened by Carl E. Black, Jacksonville.

4:45 P. M.—Fascial Sutures in the Repair of Inguinal Hernia, illustrated by motion pictures, William J. Pickett, Chicago. Discussion opened by E. S. Murphy, Dixon.

Wednesday Morning May 21, 1930

8:30 A. M.—Surgery of the Thyroid, Wilbur E. Bowen, Peoria. Discussion opened by Carl Hedblom, Chicago.

8:50 A. M.—Thyroidectomy for Thyrotoxicosis for Patients Beyond Fiftieth Year, J. M. Mora, Chicago. Discussion opened by E. P. Sloan, Bloomington.

9:15 A. M.—The Preservation of the Parathyroids in Goiter Surgery, George M. Curtis, Chicago. Discussion opened by Lindon Seed, Chicago.

9:45 A. M.—Rectal and Perirectal Drainage in Deep Pelvic Abscess, Charles J. Drueck, Chicago. Discussion opened by Clement Martin, Chicago.

10:10 A. M.—Factors That Make for Safe Gall Bladder Surgery, John J. Haeberlin, Chicago. Discussion opened by Clyde Finley, Galesburg.

10:30 A. M.—Surgery of the Pendulous Abdomen and Breast, illustrated by motion pictures, Max Thorek, Chicago

11:00 A. M.—Surgery of the Hypophyseal Tumors, George J. Heuer, Professor of Surgery. University of Cincinnati, Cincinnati, Ohio. (By invitation.)

12:00 M.—Election of Officers of Section on Surgery for 1931.

Wednesday Afternoon, May 21, 1930

Joint meeting with Section on Medicine.

3:00 P. M.—Symposium on Obstetrics:

1. The Mechanics of Posterior Occiput and the Application Thereto of Posture in Its Treatment (with illustrations), Gilbert Fitz-Patrick, Chicago.

2. Certain Aspects of Ectopic Surgery, A. J. Lennon, Joliet.

4:30 P. M.:

3. The Corporation Profession, Charles B. Reed, President, Chicago Medical Society, Chicago.

4. The Care of the Wounded of the Division in the Field, Major Roy K. Ogilvie, M. C., U. S. Army .

SECTION ON EYE, EAR, NOSE AND THROAT

Walter Stevenson, *Chairman*.
Harry S. Gradle, *Secretary*

Tuesday, May 20, 1930. 2 P. M.

1. The Diagnosis of Glaucoma, J. H. Roth, Kankakee. Discussion opened by J. Duane, Peoria.

2. A New Method of Local Anesthesia for Alleviating Pain of Incising a Peritonsillar Abscess, M. R. Guttman, Chicago. Discussion opened by C. K. Gabriel, Quincy.

3. Colds, Complications and Sequelae, G. P. Conger, Oak Park. Discussion opened by Frank Novak, Chicago.

4. The Solitary Choanal Polypus, S. M.

Morwitz, Chicago. Discussion opened by S. Salinger, Chicago.

5. Important Factors in The Diagnosis of Foreign Bodies in the Air Passages, C. D. Sneller, Peoria. Discussion opened by E. McGinnis, Chicago.

6. A Case of Bone Formation in the Choroid, S. J. Meyer, Chicago. Discussion opened by Thomas Allen, Chicago.

7. Mirrors of the Para-Nasal Sinuses, J. A. Cavanaugh, Chicago. Discussion opened by H. R. Wormley, Rockford.

8. The Indications for Simple Mastoid Operation, I. Muskat, Chicago. Discussion opened by W. W. Gailey, Bloomington.

9. Frequency of Atypical Surgical Mastoiditis in Children, M. H. Cottle, Chicago. Discussion opened by George Woodruff, Joliet.

(There will be three more papers on the program, to be announced in the Official Program to be printed in the May JOURNAL.)

Tuesday Evening, May 20, 1930

6:30 P. M.—Annual Banquet of the Section, with two short speeches and entertainment.

Wednesday, May 21, 1930

1. The Treatment of Squint in Children, C. S. O'Brien, Iowa City, Iowa. (By invitation.)

2. Diagnosis and Treatment of Commoner Affections of the Throat, J. C. Beck, Chicago.

3. Etiology and Treatment of Optic Neuritis, M. Weiner, St. Louis, Mo. (By invitation.)

4. Hyperplastic Sinus Disease in Relation to Retro-Bulbar Neuritis, S. G. Higgins, Milwaukee, Wisconsin. (By invitation.)

5. Modern Therapy of Corneal Infections, S. R. Gifford, Chicago.

6. Diagnosis and Treatment of Chronic Running Ear, W. P. Wherry, Omaha, Nebraska. (By invitation.)

These papers will be discussed in the afternoon, beginning at 3:00 P. M. following the Oration in Surgery. Each of the Orators will have a separate room, in which there will be a continuous discussion by those members interested in that particular subject.

Adjournment at 5:00 P. M.

SECTION ON PUBLIC HEALTH AND HYGIENE

John J. McShane, *Chairman*
Charles H. Miller, *Secretary*

1. Diphtheria and Scarlet Fever, Arlington Ailes, La Salle. Discussion opened by H. O. Orvis, Winnetka.

2. Recent Advancements in the Epidemiology of Intestinal Diseases, Lloyd Arnold, Chicago. Discussion opened by O. A. Goldsmith, Chicago.

3. Silicosis and Its Control, R. T. Pettit, Ottawa. Discussion opened by S. C. Beach, Chicago.

4. Results of Seventeen Years of Periodic Health Examinations in Industry, Hart E. Fisher, Chicago. Discussion opened by S. C. Plummer, Chicago and C. W. Hopkins, Chicago.

5. Personal Hygiene, Gottfried Koehler, Chicago.

6. Smallpox, C. S. Nelson, Springfield. Discussion opened by I. D. Rawlings, Chicago.

7. The School Physician in a Community Health Program. A. A. Crooks, Peoria. Discussion opened by F. A. Turner, Rockford.

8. The Relation of Diseases of Animals to Public Health, Robert Graham, Urbana. Discussion opened by W. A. Evans, Chicago, and Colonel Wentworth, Chicago.

9. The Health Department and the Practicing Physician, Harold M. Camp, Monmouth. Discussion opened by H. H. Tuttle, Springfield.

10. The Modern Rural Health Practice, Arthur T. McCormack, State Health Officer, Louisville, Ky. (By invitation.) Discussion opened by Isaac D. Rawlings, Chicago.

11. Epidemic Meningitis, Archibald Hoyne, Chicago.

12. Some New Economic Phases of State and Local Hygiene Program, Herbert E. Phillips, D.D.S., Chicago. (By invitation.)

13. Domestic Chemical Refrigeration in Relation to Public Health, A. H. Kegel, Chicago.

14. Administrative Control and Early Diagnosis of Tuberculosis, George T. Palmer, Springfield. Discussion opened by Ethan Allen Gray, Chicago.

15. Health Appraisals, John M. Dodson, Chicago.

SECTION ON RADIOLOGY

I. S. Trostler, *Chairman*
Henry W. Grote, *Secretary*

1. Some Remarks on Radiation Treatment of Toxic Goiter, Isaac Gerber, Providence, R. I. (By invitation.)

2. The effects of X-Rays on the Normal

Thyroid and Parathyroid of Animals, Andrew C. Ivy, Otis M. Walters and R. J. Anson, Chicago. (By invitation.)

3. The Pathology of Uterine Cervix and Treatment, B. H. Orndoff, Chicago.

4. Persistent Thymus from the Roentgenological Standpoint. Wilbur H. Gilmore, Chicago.

5. The Value of the Lateral View of the Chest, C. H. Warfield, Chicago.

6. A Device with Fixed Pressure and Volume Limits for the Insufflation and Lipiodol Methods for Determining Tubal Patency, Harry M. Jones, Chicago.

7. A New Method of Medical Diagnosis, Based Upon Diffraction Analysis of Tissue Structure, C. S. Bucher and G. L. Clark, Ph.D., Champaign.

8. Title to Be Announced, Edward L. Jenkinson, Chicago.

9. The Value of the X-Ray Examination of the Appendix, James T. Case, Chicago.

10. Genito-Urinary Anomalies, Otis W. Britt, Waterloo, Iowa. (By invitation.)

11. Further Observations on Irradiation of Tonsils, Since 1924, Harry D. Magee, Peoria.

12. Blood Chemistry Diagnosis of Cancer, James S. Archibald, Decatur.

RULES GOVERNING THE PRESENTATION OF PAPERS

All Papers read by members shall be limited to twenty minutes and remarks in discussion to five minutes, floor privilege being allowed only once for the discussion on any one subject.

All papers read before the Society or any of its Sections shall become the property of the Society. *Each paper shall be deposited with the Secretary of the Section when read* and the presentation of a paper to the Illinois Medical Society shall be considered tantamount to the assurance on the part of the writer that *such paper has not already appeared and will not appear in medical print before it has been published in the* ILLINOIS MEDICAL JOURNAL.

A Paper not heard in its scheduled turn shall be held subject to the call of the Chairman of the Section at the end of the regular session if time permits, or as an alternative at the end of the program.

All subjects shall be confined strictly to the subject in hand.

No Paper shall appear in the printed transactions of the meeting unless read in full or in abstract.

(From the By-laws of the Illinois State Medical Society.)

EXHIBITORS AT 1930 ANNUAL MEETING

American Medical Association, 535 North Dearborn Street, Chicago.

American X-Ray Corporation, 711 West Lake Street, Chicago.

A. S. Aloe Company, 1819 Olive Street, St. Louis, Missouri.

The Burdick Corporation, Milton, Wisconsin.

Cameron's Surgical Specialty Company, 666 West Division St., Chicago.

The DeVilbiss Company, Toledo, Ohio.

De Puy Manufacturing Company, Warsaw, Indiana.

H. G. Fischer Company, Inc., 2337 Wabansia Avenue, Chicago.

General Electric X-Ray Corporation, 2012 W. Jackson Blvd., Chicago.

Gerber Products Division, Freemont Canning Company, Freemont, Mich.

Horlicks Malted Milk Corporation, Racine, Wisconsin.

Huston Brothers Company, 185 North Wabash Ave., Chicago.

Kellogg Company, Battle Creek, Michigan.

Illinois State Department of Health, Springfield, Illinois.

Illinois Tuberculosis and Health Association, Springfield, Illinois.

Medical Protective Company, 360 North Michigan Blvd., Chicago.

Mellins Food Company, 177 State Street, Boston, Mass.

M. & R. Dietetic Laboratories, Columbus, Ohio.

V. Mueller and Company, Ogden Avenue and Van Buren St., Chicago.

Orchard Hill Camp, St. Charles, Illinois.

Chas. H. Phillips Chemical Company, 170 Varick Street, New York City.

Petrolagar Laboratories, 536 Lake Shore Drive, Chicago.

Post-Graduate School of Surgical Technique, 2512 Prairie Avenue, Chicago.

Sharp & Smith, 65 East Lake Street, Chicago.

W. B. Saunders Company, West Washington Square, Philadelphia.

Arthur L. Shreffler, Joliet.

Standard Pharmacal Company, 847 W. Jackson Blvd., Chicago.

E. P. Sloan, Bloomington.

Swan-Myers Company, Indianapolis.

Sutliff & Case Company, Inc., Peoria.

Tailby-Nason Company, Boston.

Williams Iowa Supply, Iowa City, Iowa.

Wm. W. McMaster, Peoria.

Zimmer Manufacturing Company, Warsaw, Indiana.

NOTES ON EXHIBITS

The American Medical Association will have an interesting Educational exhibit showing the work the Association is doing for the physicians of the country. Among the exhibits will be some very interesting material from the Bureau of Investigation. The Council on Pharmacy and Chemistry, the Council on Medical Education and Hospitals and other Departments of the Association will be represented likewise. This exhibit should be of intense interest to all members and guests at the meeting as an evidence of the great work the Association is doing. HYGEIA, the reliable Health Magazine for the Laity, will be featured in the exhibit and those not familiar with this interesting Journal should be thoroughly convinced that it has an appeal which should place it on the table of every professional office in America.

The American X-Ray Corporation will exhibit a model of an X-ray unit that, since its introduction of fairly recent date, has proven of exceptional value. These small units are so built that the X-Ray plant, consisting of transformer and control as well as the full range tube stand, X-Ray tube and table, if desired, are all as one unit. There is eliminated the necessity of attaching aerial leads to the ceiling, as these aerial leads are also a part of the unit. The numerous methods of assembling the apparatus enables the individual doctor to have his requirements thoroughly complied with, with a minimum space consumption and a minimum investment. American X-Ray Corporation manufacture apparatus of larger capacities and are able to thoroughly meet the requirements of the largest to the smallest institution. The factory and main offices are located in Chicago and there is a permanent invitation to the profession to call at the factory any time it is convenient.

The A. S. Aloe Company of St. Louis, Chicago and Los Angeles, will have an interesting exhibit showing an appropriate layout of the latest in Physio-Therapy Apparatus and White Steel Furniture. A special feature of the Aloe Exhibit will be the showing of the moderately priced "GRAVES" Hydraulic Lift Office Chair-table and a complete line of Chrome Plated instruments. The Aloe representatives will be pleased to show anything to physicians that they may be particularly interested in and to meet many of their former friends.

The Burdick Corporation, Milton, Wisconsin, will exhibit a complete line of Light Therapy Equipment. This will include Air and Water-cooled Quartz Lamps and a complete line of Zoalite Infra-red Lamps. A feature of especial interest will be the new type reflector for the Air-cooled Lamp which approximately doubles the ultra-violet intensity as compared with reflectors of former types. This new type reflector can be supplied for any previous model of the Burdick Air-cooled Lamp. Representatives from the Burdick Branch Office at Chicago, from the Dick X-Ray Company and from the V. H. Hurley Company will be present at the Burdick booth.

The value of "High Visibility in Diagnosis and Surgery," as applied to all phases of major and minor diagnostic, operative and therapeutic procedure will be fully demonstrated at the clinical exhibition of Cameron's Surgical Specialty Company, Chicago, in space No. 11. The demonstration of Cameron's Cauteries will also be a unique feature of the exhibit.

The DeVilbiss Company, Toledo, Ohio, will show a complete line of DeVilbiss professional and patient sprays. All DeVilbiss professional sprays are chromium plated, which prevents tarnishing and makes their good appearance more permanent. The tips are now turned out of bar steel and the threads are more accurate and strong. The patient atomizers have been redesigned so that heavy oils may be sprayed with but little pressure. The DeVilbiss Company will be pleased to show these new features and their entire line to all physicians interested in these necessary articles.

H. G. Fischer and Company, Inc., will exhibit some very interesting equipment, which should appeal to all interested in electrical accessories. There will be a new, simple and inexpensive Surgical Tissue Cutting Outfit, a Combination Radiographic and Fluoroscopic Unit with every approved and necessary feature incorporated in the best machine of its kind, but sold at a low price; diathermy portables and diathermy cabinets; a combination Galcanic and Contractural Currents Generator with a distinctly new cabinet and finish, as well as ultra-violet lamps, accessories and the like. There will be several representatives of the Company at the exhibit who will be pleased to render any possible service to those interested in physical therapy or X-Ray apparatus.

SEE THE ELECTROCARDIOGRAPH IN OPERATION AT THE VICTOR BOOTH

Only those who have operated one of the older type electrocardiographs can appreciate the simplicity and ease of operation of the instrument on demonstration at the booths of the General Electric X-Ray Corporation, formerly Victor X-Ray Corporation. By a method similar to radio amplification, it "steps up" the feeble heart current to a point where it will actuate a sturdy Galvanometer, thereby eliminating the fragile quartz string required in former types because of the infinitesimal actuating current. No longer need a hospital be wired for electrocardiographic service—this instrument being entirely self contained, is simply wheeled to the patient's bedside. No special technical skill is needed to operate it; anyone can produce cardiograms of excellent diagnostic value after an hour's instruction. In addition to the electrocardiograph there will be shown a representative collection of Physical Therapy apparatus, also an interesting exhibit of radiographs.

DePuy Manufacturing Company of Warsaw, Indiana, will exhibit many new models in Aluminum X-Ray Splints, in Booth No. 22. This company having served the profession with pleasure for over a half century, makes a line of splints which meet with the approval

of radiographers and surgeons over the entire country. DePuy Splints are transparent to the X-Ray, are amply ventilated and are a product of quality at a moderate price. Physicians recognize the merits of a standard product and have confidence in a house which serves them well. The DePuy exhibit will be in charge of their Illinois representative, the well known redhead, W. D. Bates, who will explain the use of splints for any fracture problems at their booth.

Gerber's Unseasoned, Strained Vegetable products, the New A. M. A. accepted foods for infant feeding and special diets, will be shown again this year in Booth No. 5. These foods have attracted wide attention in medical circles because of the opportunity they offer for more perfect control of the infant vegetable diet and being unseasoned, can be used in a wide variety of adult diet cases. Attendants at the booth will be pleased to explain their use, preparation and any other information that may be desired concerning these Strained Vegetable Products.

Huston Brothers Company, one of the oldest Surgical Instrument Houses in the country, will exhibit an execptionally good and interesting line of instruments in Spaces 16 and 28. Their line will include practically everything on the market in the line of Chrome Plate and rustless material. Among other new and interesting instruments shown will be a new Tonsil Snare that works with great efficiency without a wire or a cutting blade. They will exhibit a "Whisper-fone," a small electrical hearing instrument imported from England, said to be the smallest device of its kind and highly efficient. A Tonsil Tier which holds the finest catgut, without danger of breaking and making an automatic tie; a new Abdominal supporter, giving constant and gentle upward pressure, will be among the many new and interesting devices in the Huston Exhibit.

Horlick's Malted Milk Corporation are again among the exhibitors and plan unusual activities in the interests of their products, Horlick's, the original Malted Milk, natural and chocolate flavors, powder and tablet form and Horlick's Malted Milk Modifier, a maltose and dextrin product. The Horlick Exhibit will occupy Space No. 51 and their representatives will be pleased to greet all in attendance at the meeting.

The Illinois State Department of Health will have a highly interesting Educational Exhibit showing the work the Department is doing to improve Health Conditions in Illinois. The State Health Department asks the cooperation of all physicians in the carrying out of their work, realizing the necessity of perfect cooperation as a factor in the success of their plans.

The Illinois Tuberculosis and Health Association will have an Educational exhibit, showing the work the Association is doing to help in the eradication of the "Great White Plague." This Association is a cooperative organization, which realized the necessity of professional guidance. The new Executive Secretary of the Association, Mr. W. P. Shahan, who recently came to Illinois from Indiana, where he was doing similar work, is anxious to meet the members of the Illinois State Medical Society and assure them of his desire to work with the Medical profession.

Physicians who are interested in a coffee which may be used in special as well as in normal diets are invited to visit Booth No. 47, where the Kellogg Company of Battle Creek, Michigan, will have a display and demonstration of Kaffee Hag Coffee and other Kellogg products. Kaffee Hag is real coffee, from which it is said 97 per cent of the caffeine has been removed. Visitors at the booth will be served with this caffeine-free coffee and Kellogg's all-bran muffins. Diet suggestions and Prescribed Diet lists will be distributed.

Mead Johnson and Company will have on exhibit its complete line of infant diet materials including "Mead's" Dextri-maltose; Mead's Cod Liver Oil; Mead's Viosterol; Mead's Recolac; Mead's Non-Curdling Powdered Protein Milk and Mead's Non-Curdling Powdered Lactic Acid Milk. There will be for the examination of physicians a complete line of Mead's services such as diets for older children, height and weight charts, etc., all of which are free to members of the medical profession in any quantity desired. Their Illinois representatives will be on hand to meet their friends and to discuss the application of the Mead products to infant feeding problems.

All members of the Illinois State Medical Society and friends are cordially invited to visit Booth No. 34 of the Medical Protective Company, Mr. M. L. Allen of the Peoria office will be delighted to have you call, whether merely to say "hello" and renew old acquaintances or to satisfy yourself on some question of malpractice protection. Consider him at your service and feel free to call upon him for anything which may contribute to making this the most pleasant and successful society meeting you have yet attended.

No argument is needed to emphasize the advantage to the physician of a thorough knowledge of any product that he deems worthy of frequent or only occasional use in the work of his profession. This is the thought that prompts the Mellins Food Company to have an exhibit and the purpose is to give physicians an opportunity to acquire full and complete information relative to the source, nature and amount of food elements present in Mellins Food and to discuss the many conditions where Mellins Food may be used to the advantage of the patient and the satisfaction of the medical attendant.

SIMILAC, a completely medified milk, is being exhibited at Booth No. 25. Representatives of the M. and R. Dietetic Laboratories will be pleased to answer any questions pertaining to the use of SIMILAC either as a complement to the breast feeding or as a complete diet for infants deprived of breast milk.

V. Mueller and Company of Chicago will have a large exhibit of more than general interest. Many new patterns of surgical instruments that have been developed during the past year, particularly for bone work. The Eye, Ear, Nose and Throat specialist will find much of interest by way of some new types of instruments for this particular work. V. Mueller and Com-

pany as Chicago representatives for Wappler diagnostic instruments will also demonstrate the new Wappler line of ophthalmoscopes, auriscopes, laryngoscopes, etc., as well as new models of cystoscopes. Among these is the smallest cystoscope yet designed for use on children.

The Orchard Hill Camp situated on the beautiful Fox River, just north of the St. Charles Country Club, is an exclusive camp for the younger children. It is interesting to note that practically half of the children at the camp are the sons and daughters of physicians who evidently appreciate the best for their children. The camp is under the personal direction of Dr. R. J. Lambert and Dr. Edith B. Lowry. Physicans interested in the welfare of children should not fail to visit Booth No. 3.

At the Petrolagar Booth there is an active demand for the set of drawings by Tom Jones of the University of Illinois illustrating various types of constipation and bowel conditions. Sets are given free or mailed. They are helpful in consultations with patients and for comparison with roentgenograms. These pictures are distinctive and somewhat different from the usual anatomical drawings of the bowel in that they show the perspective. They are not flat.

Space No. 4 is occupied by the Chas. H. Phillips Chemical Company, makers of the well known products, PHILLIPS MILK OF MAGNESIA, the ideal laxative-antacid, PHILLIPS DENTAL MAGNESIA, a superior tooth paste and PHILLIPS PHOSPHO-MURIATE OF QUININE, a dependable appetizer and tonic. It will be worth your while to visit the Phillips Booth and investigate these preparations.

The exhibit of the Post-Graduate School of Surgical Technique comprises charts and drawings upon subjects of interest in surgical anatomy and surgical technique. A projection apparatus shows slides of various surgical procedures as taught and demonstrated in the school. A number of courses are offered in general surgery and in the various surgical specialties.

Sharp and Smith, Chicago, who have been in the Surgical Instrument business for more than eighty-five years, will exhibit a representative line of high grade instruments comparable to their many years of leadership in the Surgical Field. They will be pleased to greet their many friends and demonstrate their many instruments at Booths Nos. 37 and 38.

W. B. Saunders Company, publishers of Philadelphia and London, will exhibit a complete line of all of their titles. Among the newer and more important of these will be Beckman's new Treatment in General Practice, Campbell's New Orthopedic Surgery, Christopher's New Minor Surgery, Graham's new three-volume work on Surgical Diagnosis, the new Mayo Clinic Volume, new editions of Boyd's Surgical Pathology, Blumer's three-volume work on Bedside Diagnosis, Granger's Physical Therapeutic Technique, Jackson and Coates on Nose, Throat and Ear, Wechsler's Neuroses, Norris and Landis' Diseases of the Chest and Physical Diagnosis and the American Illustrated Medical Dictionary.

The Standard Pharmacal Company, 847 West Jackson Blvd., Chicago, specializes in the manufacture of pharmaceuticals for the dispensing physician. Their products are made for and sold only to physicians and their service is of particular interest to the physician who dispenses either a part or all of his medicines.

Sales are made exclusively by mail and low list prices and discounts give buyers an opportunity for a substantial saving. The products consist of U. S. Pharmacopoeia and special formula tablets and liquids. Their display will consist of U. S. P. formulary preparations.

Complete catalogue with therapeutic index and samples will be available to any physician visiting the exhibit, or makes request by mail. The exhibit will be in charge of Dr. J. P. Eagan, who will give all information desired relative to the policy or products of the manufacturer.

Sutliff and Case Company, Inc., of Peoria, will exhibit a representative display of their line of Pharmaceutical Specialties, Solu-Caps, Hypodermic tablets, Ointments, Compressed tablets, Fluid-extracts, Tinctures, etc., including a special section devoted entirely to their well known products Thiocyan-Elix, Kolagog, Phytosalicyl, Tin-Ox. The firm especially requests members and visiting physicians to register at their booth, so that a memento of their visit may be mailed to their home address. Mr. Al Gillig, dean of their sales force, and Mr. H. J. J. Norman, their pharmaceutical chemist, will be in constant attendance at their booth and will be pleased to welcome their many friends and others.

Interest in Bacteriophage will undoubtedly draw many physicians to Booth No. 19, where members of the scientific staff of Swan-Myers Company will furnish information and literature on this new development in Biological Therapy. The Swan-Myers Laboratories were the first to be licensed by the United States Government for the manufacture of Bacteriophage and are at present the only laboratories in the country to supply Bacteriophage commercially. They will also have interesting displays of Ephedrine Products, including Swan-Myers Inhalent Number 66, Pollen Extracts and Parasylla, Swan-Myers, a new mechanical laxative that combines Psyllium seed jelly and mineral oil in a pleasing emulsion.

BIG COD FROM NORWAY.—During the fishing season of 1928 a cod of record proportions was taken from the Lofoten waters of Norway for Nason and Company, a/s, the Norwegian subsidiary of Tailby-Nason Company of Boston. This splendid fish, four feet eleven inches long and weighing 30 kilos will form an interesting part of the exhibit of Nason's Palatable Cod Liver Oil, "The Better Tasting Kind," produced at Nason's plants in Norway, at Booth No. 26. Other important features of the exhibit will be the white rats used in testing the oil for its vitamin activity and roentgenographs of the leg bones of rachitic rats showing the progress of the healing induced by Nason's Cod Liver Oil.

Williams Iowa Supply Company, the reliable Surgical Supply Dealers of Iowa City, Iowa, will have an

interesting exhibit in Space No. 17. Representatives of the firm will be present to show the many numbers included in the exhibit and to greet their old friends as well as to meet many new ones.

W. W. McMaster, successor to the well known McMaster and DeKroyft Company of Peoria, will exhibit a large line of Pharmaceuticals, Instruments and Office Equipment. This firm, which dates back to 1860, is always anxious to fill the wants of the medical profession to which they have catered so many years. The exhibit will be shown in Booth No. 21.

ZIMMER Fracture Equipment including Aluminum X-Ray splints, Fracture beds, Extension and suspension apparatus, etc., will be exhibited in Booth No. 33. Representatives of the company will be pleased to answer any questions pertaining to the use of these interesting and essential accessories in the treatment of fractures. Their recent additions to the line formerly shown will be of especial interest to all members of the medical profession.

YOU'VE ALWAYS GOT TO SMILE

By James J. Montague

You got to keep on smilin'
However hard the way,
Altho you're shy the cash to buy
Your three square meals a day.
You may have ketched the measles
Or else, perhaps the mumps;
But just the same you must be game
An' never get the dumps.
A glum an' gloomy spirit
The brightest life kin spile
No matter what complaint you've got
You've always got to smile.
You got to keep on smilin'
An' never heave a sob
Or pull a moan or spill a groan
When you have lost your job.
If wife and kids have left you
Don't never shed a tear;
Be gay and glad as ef you had
A heart plumb full of cheer.
Remember, livin' single
Ain't sech an awful trial—
The clouds you'll find is silver lined
If only you can smile.
You got to keep on smilin'—
There's no sech word as fail—
Tho by mistake the laws you break
And get shet up in jail.
An' even ef they hang you,
The rope won't hurt you long,
So while you wait to meet your fate
Just sing a little song.
Keep readin' smilin' poems;
They make hard luck worth while,
Our recompense for lackin' sense
Is learnin' how to smile!

—In *Philadelphia Evening Bulletin.*

Original Articles

CO-OPERATION OF THE HEALTH DEPARTMENT WITH THE PRACTICING PHYSICIAN*

Arnold H. Kegel, M. D., D. Sc., F. A. C. S.,
Commissioner of Health
CHICAGO

In the field of preventive medicine the modern trend is toward co-operation between public health administrators and the practicing physician. In times past public health administration was devoted mainly to the control of typhoid fever and to safeguarding the water and milk supplies, but the time has come when these matters are very well regulated and are handled as routine in a well organized department of health.

Now each new administration has new problems to work out. Indeed, public health administration would be a very dull thing if it were merely the matter of caring for these routine affairs. The co-operation between physicians and public health administrators is a necessity beyond all else; it can not be considered anything except a necessity both from the standpoint of the public health administration and that of the physician.

Early in my incumbency as Commissioner of Health of the City of Chicago, I made the statement that it was necessary that there be co-operation between physicians and the Health Department. The statement alone did not get very far. It did not get anywhere, in fact, for that statement had been made many times before, and it soon became quite obvious that it was necessary to find a problem on which the two groups could work together. In attempting to establish co-operation between the two divisions, I believe that it is most necessary of all to find a program which requires a concerted effort on the part of both; that they each have a certain amount of work to do, a certain number of duties to perform, which really require co-operation.

Each one of us here realizes the position that the medical profession has got into with regard to preventive medicine. The tendency of the practicing physician to omit preventive work in his practice is rather a pernicious one. Years

*Read before the Section on Public Health and Hygiene, Illinois State Medical Society, Peoria, May 21.

ago the practicing physician should have taken up and worked along the lines of preventive medicine. Departments of health have gradually taken it over, until today it would almost seem that the medical profession feels that it is the duty of the public health administration so to do. This should not be, for various reasons. In the first place, public health administrators can not possibly cover the work of preventive medicine to the degree that this should be done. It would be impossible for them to do it as accurately or as efficiently as the medical profession as a whole can do it.

I wish to tell you how we have arranged in Chicago what we think at this time is quite an ideal plan for bringing together the medical profession and the public health administration. Obiously the problem had to be a vast one. It had to be one in which each would have his duties, wherein each would benefit, and in which the public would benefit to a considerable extent. The problem selected was that of eradicating the defects among school children.

In a survey which was made it was found that eighty-five per cent. of Chicago school children are suffering from defects of one kind or another. Seventy-one percent. of the school children are suffering from defects severe enough to influence the child's progress, to affect his health, and above all to affect his happiness. One hundred fifty-six thousand school children were examined to form this basis. Estimating the total number of Chicago school children as 600,000 would mean that we have 435,000 school children that have defects which require correction.

The program on which we have based our cooperation, and which we hope will be only a beginning of future work, I shall explain to you now. Our plan was first of all placed before the Board of Education, who. upon realizing the importance of eradicating physical defects in school children both from an economical standpoint and from a standpoint of the welfare of the school children, adopted the program as their major objective during the remainder of their term of office. We have their full co-operation.

The social agencies were only too glad to cooperate in such a program, as was the Dental Society, and also the Parent-Teacher Associations. The last to come in and recognize its importance, perhaps because the plan had been placed before them toward the last, was the medical profession. It was about three weeks ago that the Council of the Chicago Medical Society endorsed the program and is now giving it active support.

The City of Chicago is vast in its territory, with a population of over three million; therefore, it was necessary to divide the city into sections. These sections were outlined according to the natural boundary lines which have been laid down by the Council of Social Agencies, dividing the city into forty sections. Our first section was an experimental one, that of the near North Side, bounded by Kinzie street, the River. the Lake and North avenue. The Board of Education provided working and desk space for each one of the Associations that I have mentioned.

The details of the program work out about this way: The Department of Health, through its school physician examines school children, in the presence of parents wherever this is possible. Records are kept of each child, for the purpose of follow-up. A sufficient number of nurses to give us a good follow-up organization have been placed in the district. Children from families which have a family physician are referred back to the physician for care. The physician in turn reports to us when the correction is first begun, and finally when it is completed.

There are many problem cases in the district which I have just mentioned, and also cases where there is wilful negligence. The Council of Social Agencies, through its clearing house, has, I might state, to a certain extent taken over the investigation of the economic status of the patients. Those who can pay nothing whatsoever are referred to clinics; those who can pay a little, or more. are referred to physicians in the district. The North Side Branch of the Chicago Medical Society has appointed a committee, which is at the present time under Dr. Parkes. This committee is taking the name of each one of the children who require corrrection. They have in turn provided the names of doctors in the district, in the neighborhood, who will take on the correction of the defects found.

Thus far our experimental program, our experimental district, have worked out very well. There is only one hitch in the entire program, as

we see it now, and that is the lack of clinical facilities and the lack of interest of physicians in obtaining corrections to a complete extent.

We find that there are many physicians in the district who rather resent having children sent to them with a diagnosis. Therefore, we have found that it contributes a little bit more to the doctors' happiness, you might say, by reporting to them the defect, rather than the specific diagnosis.

We hope that the plan followed in this experimental district which we have established and in which the North Side Branch of the Medical Society is co-operating with the Department of Health will be extended to all parts of the city. The enthusiasm with which it has been accepted by each one of the agencies and the opportunity grasped by each of the agencies to work with the others whose interests are common, you might say, and who have the welfare of the community and the children at heart evidences their appreciation of the advantageous opening thus given them. I believe it is the first time that such an extensive program of co-operation has been attempted by any health department in the United States.

There are other things, other conditions in which a department of health can co-operate with physicians. I just wish to enumerate some of the things in the City of Chicago which have redounded to the benefit of the children as a whole as well as that of the medical profession. In the first place, the Department of Health has assisted physicians to the number of 955 in establishing a diagnosis of suspected or doubtful cases of communicable diseases. Physicians in Chicago are constantly calling upon the Department of Health to aid them in these cases.

In our school health program in 1928, 63,000 children who were found with defects were referred back to their family physicians to have those defects corrected. Unfortunately, we have no figures as to the number of corrections obtained by this rather loose method of having no follow-up system or check-up as to whether the children really got to the family physician.

The nurses of the Department of Health made calls last year to the number of 80,000 in an effort to get parents to take their children to family doctors.

During the school year of 1929, there was left to the family physician the giving of toxin-antitoxin, instead of this being done by the Department of Health. In 1928, the Department of Health had given 50,901 children toxin-antitoxin treatment, but the response on the part of physicians in 1929 was a great disappointment to us. During the month of January when replies to our questionnaire first began to come in, responses were received from 1,903 doctors who had immunized approximately 15,200 patients. During February the number was markedly reduced, and in April it had dropped down to one; so that we are forced to the conclusion that the family physician or the general practitioner does not appreciate the necessity for doing preventive work in diphtheria.

We believe that a large number of the preventive treatments given was the result of our educational campaign among the families through the children, rather than the result of efforts made by the doctors, although we sent to each doctor in the city fifty blanks which they might send out to the families in their practice so they would obtain toxin-antitoxin treatment. However, as I say, the number of treatments dropped off very abruptly after the educational program had been curtailed.

Through our diagnostic service, the Chicago Department of Health has aided physicians in making laboratory examinations to the number of 160,000. Contagious disease cases cared for in the Municipal Contagious Disease Hospital numbered 4,235. The Municipal Contagious Disease Hospital is in charge of a Superintendent who is under the direction of the Department of Health. However, family physicians are invited to send their cases to this Hospital and take care of them there. It is rather strange to say that very, very few doctors of the City of Chicago take the opportunity of using the Contagious Disease Hospital for their own cases. They prefer to turn them over to the city to be cared for.

In our effort to establish a definite program of co-operation with physicians in the City of Chicago, it would seem that there is a decided lack of interest on their part in doing preventive medicine work, and consequently that the outstanding necessity both in the State and City

is that of interesting physicians more definitely in preventive medicine if they wish to retain its control. If the doctors of the state do not wish to do or will not take up preventive medicine, the point is being reached where the State and City will have to take it over, of necessity.

We hope that eventually a program may be outlined which will convince every doctor of the necessity of taking up with serious mind the matter of preventive medicine.

DISCUSSION

Dr. James H. Hutton, Chicago: Dr. Kegel has pointed out, I think, that the practice of medicine is a changing affair. Preventive medicine is the medicine of the future, if not of the present. Our future welfare depends very largely on whether we take advantage of that fact.

We have not sufficiently appreciated the importance of preventive medicine to the doctor. The advantage to the patient has been emphasized a good deal in public health publications and in the lay press. I do not think we need to go into that. The Chinese recognized that a long time before we did. The advantage of preventive medicine to the profession is a thing we have not grasped sufficiently. Its importance to the profession has two aspects, professional and economic. At this time we complain a good deal about the unfair competition to which we are subjected by universities, foundations and what not. However, they have undertaken but little in the practice of preventive medicine except in the way of inoculations and sanitation. When we turn our attention to the field of preventive medicine, the field of our usefulness is very much enlarged.

When we take up preventive medicine our field of usefulness lies with the entire population instead of merely with the sick.

The school program that Dr. Kegel mentioned is one of the most constructive things that has taken place in this whole country,—certainly the most important that has gone on in Chicago. Dr. Kegel talked to me about this thing several months before it went into effect, and it seemed to me the program was so large that even if part of it were successful we could point to it with a good deal of pride.

I hope that we can make that part of the program of the Chicago Medical Society, and try to see to it that our own members co-operate actively with Dr. Kegel in that matter. In inaugurating that thing Dr. Kegel got away from a criticism leveled against us,—that of being against things without offering anything in their stead. Dr. Kegel sized up every element that might enter into that program and gave every organization a duty.

Dr. Kegel turned over to the private physician the toxin-antitoxin campaign last winter. The doctors were so surprised at this spirit of co-operation from the Health Department that they did not take advantage sufficiently of the opportunity. We should attempt to stir up our own members and ask them to take a renewed interest in that campaign to the extent that all children that should have this inoculation are attended to before it becomes necessary for the city or state to take it over for us.

Dr. Kegel has demonstrated that co-operation is all important to the Health Department as it is to the doctor. That importance to the practicing physician depends a good deal upon who happens to be the Health Commissioner. At this time we are very fortunate in having a practicing physician in the position of Health Commissioner. I think he has put the department on a basis it has never before enjoyed.

Dr. R. R. Ferguson, Chicago: I wish to take this opportunity to say a few words about some of the things which Dr. Kegel has brought up, and perhaps answer one or two of the things which I have intended many times to write or talk to him about. One is in regard to the T.-A. As Dr. Kegel has told you, the T.-A. was started in rather a bold way some months ago, and the newspapers were used for publicity purposes, so the people could become acquainted with the value of the T.-A.

Now, after this length of time, Dr. Kegel comes forward with figures showing that the first month or two after inauguration, some thousands of cases were inoculated, perhaps twelve, thirteen or fourteen thousand. The following month dropped to less than a few hundred and then to only one, and stating that if physicians do not take hold of this the Department will have to do it. I believe every physician in Chicago who is a practicing physician, particularly among children, is doing everything he can to inoculate all the children that come under his care. I am doing a great deal of children's work, and every case that comes under my care I try to sell them T.-A. It is no fault of mine if I do not sell all of them, because hundreds of them do not come to me. Whose duty is it to sell T.-A.? It is the work of the Health Department. They should not go ahead for two or three months, do a little publicity and then blame it on the doctors if all children are not T.-A. We T.-A. every one that comes to us. It is up to the Health Department to continue their publicity. I do not believe it is right to turn around and say, "If you gentlemen do not go ahead and do this, then we will have to do it." I say you get those children to us, and keep up your publicity, and we are trying to assist you in every way we can.

I just want to leave this one thought with Dr. Kegel, that it is up to the Health Department to continue their publicity for people, and we will inoculate every child that is sent to us;—do not turn the Department over to this work, until the physicians have had the opportunity of doing all the T.-A. they can along that line.

The people that cannot afford to pay, let the Health Department go ahead and do that, but all those that can afford to pay, it is up to the Health Department to continue their publicity until all the work is done.

The other point is in reference to the Contagious Disease Hospital. It is only about one hour from my place down to the contagious disease hospital. I can

not afford to go clear down there to take care of cases. I never want my cases to go down to the Contagious Hospital. They get along as well, or better, at home. If it is a case that can afford to be taken care of in the home, or the circumstances make it necessary to send them down there, I am perfectly willing to send them, but it is an impossibility for me to take care of that case when it takes me two hours to get down there and two hours to get back. I hope the time will come when we can have a contagious hospital where a doctor can take his cases in his own neighborhood. That is the solution to this problem,—get help from your County Commissioners, so you can have one of these hospitals on each side of the City where we can have access to them and we all will be glad to send cases in, saving the people in Chicago thousands of dollars a year.

It seems to me that the Medical Society can advocate the placing of other contagious hospitals in the City, accessible to physicians.

Dr. R. O. Stites. Industry: I came down here because I am very much interested in public health measures, and I will give the observations I have, from a real country practitioner's standpoint.

A few years ago the State Department of Health began to have better babies conferences at the County Fairs. I went on the floor of our Society against the measure, and so far our society as an organization has not taken any part in the work, not because it was wrong in spirit, but because it gave the mothers a degree of assurance they should not have, because the babies are graded like Boston Bull terriers instead of babies. For instance the two most scientific procedures known to scientific medicine all over the world, namely smallpox and diphtheria prevention are rated as one point each. As much would be taken off for a mole, I believe, as for not having each of these absolute scientific procedures. And smallpox prevention has been known for 130 years. I am bitter at that procedure, because eighteen months after a baby had taken first prize at the better babies conference, I saw it die with laryngeal diphtheria. The poor mother held her child's lifeless body to her bosom, and wailed: "All those nice doctors and nurses said, she was the most perfect baby, and to think it should come to this!"

Is not the future of babies to be considered as well as the present? Why are any prizes ever awarded, until a certificate from the family physician states that these two absolute scientific procedures have been done.

Eighty-five per cent. defects in the Chicago school children! What are the defects? How hurriedly were the examinations done? What can be done for the vast majority of these defects anyhow?

Would you not, as a practicing physician, be bitter against such hurried grading, if you had worked for months with x-rays, the best consultations you could obtain, to assure some one that their child's lung infection was negative, and to have a public health officer and a nurse say it was tuberculosis, by a ten minutes examination? That has been done at our normal school.

Is more attention paid to the weight, according to the height, than plain common sense in these examinations? I think so. The human being can not be graded by a foot rule and scale; that is a breeding question and not a physical defect, except in the poor and fat. Look at all of us in this room and think how absurd this method is.

The County Medical Society can remedy this, by working through the public health service, through a publicity bureau, I think, and get this public health measure over. We have established in our local Medical Society, a bureau for public information, for the benefit of public health, we have a doctor of our society write an article on some scientific subject and have it O. K.'d by the committee appointed for such purposes and I believe if we stick to only established scientific facts, we will get somewhere.

Dr. Arnold H. Kegel, Chicago (closing the discussion): In response to Dr. Ferguson's discussion, I want to say that in the first place, newspaper publicity is worth practically nothing in obtaining toxin-antitoxin protection. You can get out all the articles in the newspapers they will take, and they will print just so much of it, and we get very little results.

It is direct advertising, you might say, direct publicity to the patient or to the family, that is necessary; therefore, we sent out notices to the doctors. We gave them the blanks which they could mail with their bills, etc., to the families urging them to obtain toxin-antitoxin protection. Less than one-third of the blanks we sent out to the physicians were sent out to the families in turn. That may be because we sent out many of the blanks to physicians who were not doing children's work.

The Department of Health issued in one batch alone very near 750,000 bulletins on diphtheria toxin-antitoxin protection. I would estimate we sent out a total of between 1,000,000 and 1,500,000 of diphtheria bulletins in the City of Chicago. In addition we distributed as much educational material through the schools, directly to the individual, as we possibly could. The fact of the matter is that in 1928, or rather the latter part of the year, we spent just as much money as we ever did before, if not a little bit more, in T.-A. protection. The year prior to that, with an expenditure of less money, we got fifty thousand children immunized. This year, with more money, we got only fifteen thousand children in Chicago immunized; that is all of which we have a record. So the matter sifts down to an economic basis. We are really short 25,000 children that would have been immunized under ordinary circumstances and are way short of the number that should have been immunized, considering the amount of money expended.

The Department of Health will continue this individual publicity to the families, the children, the doctors, and we are going to try to co-operate further in the hope that in some way a routine will be established whereby doctors will help by keeping after their families. A haphazard scattering of bulletins and of newspaper articles achieves practically no results what-

soever. The campaign must be directed to individuals. Give the children a slip to take home to the parents in order to get permission to give the children T.-A. It is a matter of concentration. Every one wants to put things off, and unless the doctor concentrates on the individual child, we shall never get anywhere.

I believe a good many of the doctors, as you were saying, are still feeling that this kind of advertising is unethical. Being public health-minded, I can not see it. I can not see that they are unethical in protecting children against diphtheria.

OCULO-GLANDULAR FORM OF TULAREMIA*

DERRICK T. VAIL, JR., M. D.,
CINCINNATI, OHIO.

The disease known as tularemia needs no introduction to you. It has occupied a great deal of attention in the literature during the past four years especially. To the wide-spread knowledge concerning the disease, great credit is due to Edward Francis, Surgeon of the Hygienic Laboratory, U. S. Public Health Service, Washington, D. C. The general phase of this subject is beyond the scope of the present paper, since we are mostly concerned with the ocular type. There are certain features of the early history, however, which should be accentuated since the *credit for the discovery of the human type of the infection is entirely due to Ophthalmology.*

History. In 1908, Wm. B. Wherry,[1] a bacteriologist, was assigned to the Port of San Francisco to investigate plague among the ground squirrels.

In 1910, George W. McCoy[2] connected with the U. S. Public Health Service found that he was unable to isolate the Bacillus pestis from a certain number of infected squirrels brought to his laboratory. although the pathology of the diseased squirrels was identical with bubonic plague. There was a laboratory rule that all cases of plague must have a positive culture before a definite diagnosis was made.

In 1911, McCoy and Chapin, working on this plague-like disease in the ground squirrel, identified an organism almost through chance, which they named Bacillus tularense after the county of Tulare in California, in which the disease was first observed. In attempting to isolate this organism they used every possible culture media which they knew.

They had on hand some culture tubes containing egg yolk media for the isolation of the tubercle bacillus. As a last resort they inoculated these with infected material and much to their satisfaction they found that the organism (B. tularense) would grow. They also discovered that certain animals, especially rodents, were highly susceptible to inoculation by the organism, producing the same type of disease which they observed among the ground squirrels. At that time they prophesied as follows:

"We do not know whether the organism causing this disease is pathogenic for man, but judging from the large number of species that are susceptible, we are inclined to suspect that man might contract the infection."

In 1912, they[3] worked out an agglutination test which has been extremely useful in proving the presence of this disease. At that time the discovery of the organism did not create any particular general interest. *In the fall of* 1913, *however, a patient consulted my father for a very severe and unusual conjunctivitis of his left eye.* Dr. D. T. Vail, Sr.,[4] recognizing that this was something he had neither seen nor read about, sent the patient to Dr. Wherry, who was then Professor of Bacteriology at the University of Cincinnati, for a bacteriological examination. Wherry and Lamb[5] worked on this case for several months, exhausting every possible method of cultivation, but keeping the disease going through laboratory animals. Wherry had been familiar with McCoy and Chapin's discovery, although it did not occur to him until several weeks had passed. that this was a human case of the disease which had been described among the ground squirrels. When he did think about this condition, the clinical problem was solved immediately, and he succeeded in isolating Bacillus tularense in pure culture. Among other experiments, he dropped an emulsion from a culture into the healthy eye of a guinea pig and reproduced the conjunctival disease, with death of the guinea pig in four days.

This is an extremely important observation since it indicates that the conjunctiva does not need to be traumatized for the organism to penetrate, and accounts for the extreme ease with which conjunctivitis tularense is caught.

*Read before Section on Eye, Ear, Nose and Throat, Illinois State Medical Society, Peoria, Illinois, May 22, 1929.

In 1914, Wherry and Lamb[7] found two rabbits in Indiana to be infected with this disease and appealed to physicians to be on the look-out for a condition of this sort, and send in material from obscure cases. Their appeal was unheeded and it was not until much later that the general profession became interested in tularemia.

In 1907, Ancil Martin[10] of Phoenix, Ariz., (Ophthalmologist) in a letter to Prof. Novy of the University of Michigan, described three cases of conjunctivitis which he had seen in his practice, and to which he gave the name of rabbit septicemia. One of these cases has since been proven by agglutination (1925) to be tularemia. The letter however, was pigeon-holed and nothing further came of it, until after Francis' work in 1919.

Pearse[25] in 1911, in Utah, under the title of "Insect Bites," described six human cases of the disease at that time known as deer-fly fever.

Francis in 1919 and 1920 investigated deer-fly fever, recognizing the identity of this disease, and named it tularemia. He isolated the organism and with Mayne demonstrated the agency of the deer-fly in transmission.

Parker and Spencer in Montana reported, in 1924, the agency of ticks in the maintenance and transmission of the infection. They demonstrated hereditary transmission through the egg of ticks.

O'Hara. in 1925, described a disease in Japan, contracted from dressing wild hares. This was proven by Francis and Moore[24] to be tularemia.

In 1928, certain Russian authors[26] reported a series of 105 cases of a plague-like disease occurring in the Ural Valley, Russia, in people who had been hunting and skinning water rats (vole). In this series two cases were found to be of the oculo-glandular type. They suspected that this disease was tularemia and are sending material to the U. S. Public Health Service for confirmation.

Prof. Zarhi of Sverdlovsk (Ekaterinburg) in the Province of Perm, Russia, sent material from a human case to Dr. McCoy, which the latter proved to be tularemia.

The distribution of tularemia therefore is wide-spread throughout the U. S., has been found in Japan and now in Russia.

At the risk of being called chauvinistic I should like to point with pride to the part Cincinnati played in the discovery of this peculiar disease. The first human case was discovered in Cincinnati and proved by the Bacteriological department of the University of Cincinnati. The first three cases were described by Cincinnati Ophthalmologists, Vail,[4] Sattler,[6] Lamb;[8] and Francis obtained his medical training in Cincinnati. So far as I know, it is the only wide-spread disease affecting the human body, which has been discovered primarily through the agency of Opthalmology.

Those who are further interested in the general features of this subject, are referred to a recent paper by Edward Francis, entitled "Summary of Present Knowledge of Tularemia," Medicine, Vol. 7, No. 4, December, 1928; and also to "Tularemia," by Walter Simpson, Annals of Internal Medicine, Vol. 1, pg. 1007; June, 1928.

SUMMARY OF THE OPHTHALMIC CASES

Through the courtesy of Dr. Edward Francis, I was supplied with the names and references of those observers throughout the country who had reported proven cases of tularemia conjunctivitis. The following is a summary of the important features of these cases.

There are thirty-four undoubted cases of tularemia conjunctivitis and one doubtful case (that of A. C. Barry. This patient had general tularemia but the conjunctivitis was mild, bilateral and cleared up quickly with 10% argyrol).

Eye affected:

O. D..... 11	O. S..... 19	O. U..... 4

Age: Youngest, 7; oldest, 72; males, 30; females, 4.

Locality: Throughout the U. S.—8 cases from Montana, 3 from Wyoming.

Occupation:

*Farmers	24	Rancher	1
Meat cutter	1	Bookkeeper	1
Cook	1	Laborer	1
Students	2	Unspecified	2
Sheepman	1		

*This includes wives and children.

SOURCE OF INFECTION

Handling or skinning rabbits (wild or jack)	23
Crushing tick	8
Portion of crushed fly	1
No animal history	2

Those who handled ticks, generally crushed them between their fingers, the infected juice flying into the eye.

One patient had the habit of rubbing an eye which had a congenital stenosis of the lacrimal duct. This she did while cleaning infected rabbits, introducing the virus into that eye.

One farmer, while removing ticks from a horse, had a foreign body strike his eye and rubbed it with infected fingers.

One farmer while cleaning rabbits, was struck in the eye by a flying piece of rabbit meat.

Two patients were bitten on the cheek, one by a

fly, the other by a tick and each slapped at the insect, crushing it. The infected material entered the eye.

Those who handled infected rabbits undoubtedly introduced the infective material into the eye by their fingers.

Lesions:

Small yellow ulcers	17	Iritis	2
Papules or nodules	3	Corneal involvement with perforation	*1
Boggy or thickened conjunctiva	5		

*Magath and Yater.[18]

All but three mentioned intense swelling of the lid; thick, edematous and redundant conjunctivae.

Size of ulcers: Varied from 2 mm. to 6.0 mm.

Number of ulcers: From 1 to 10, average number 6.

Situation of Lesions:

More on the lower lid conjunctiva, usually in the tarsal area.

Three cases showed lesions on the bulbar conjunctiva. (Vail, Jr., Clark[21] Pfunder.)

One case (Junkin[20]) had a papular rash on head and shoulders, on the 14th day of the disease; one papule at the inner canthus causing intense edema of the lids.

Glandular Involvement:

Preauricular	22	Parotid	16
Cervical	15	Submaxillary	25

Many of these suppurated and had to be incized.

Three observers reported that the glandular involvement appeared one, three and four days, respectively, after the eye symptoms. The rest showed simultaneous glandular involvement.

General Reaction and Duration of the Ocular Symptoms:

All but two had a general reaction with high temperature 103° to 104° F.

One patient was able to continue his work after a few days.

One patient had no elevation of temperature at any time (Jackson).

The febrile reaction lasted from one to six weeks, the average four weeks.

The temperature was of the typhoid type.

The conjunctivitis lasted from ten days to two months, the average four weeks.

The majority were incapacitated for from five to six months.

Type of Discharge (where mentioned):

Slight mucoid, or muco-watery	9	Profuse (type not mentioned)	1
Purulent	2	None	1
Muco-purulent	4		

All cases except one were proved by guinea pig inoculation or agglutination, one (Martin) 18 years later.

The one unproved case which is included, is that reported under "Parinaud's Conjunctivitis," by T. E. Fuller[22]. This case is so typical from the history of infection by a crushed tick to its clinical signs of incubation period, high fever, conjunctival ulcers and glandular involvement, that there is no doubt in my mind that this is a true case.

DESCRIPTION OF THE TYPICAL OCULO-GLANDULAR FORM

After a prodromal period, anywhere from 24 hours to 10 days (the average being 3½ days), the eyelids begin to swell and itch, and at the same time there is severe headache, vomiting, chills and fever. The onset is very sudden; and almost simultaneous with the swelling and edema of the lids, the glands of the head and neck on the affected side, namely: the preauricular, parotid, submaxillary and cervical, become enormously swollen and tender. If the patient is seen shortly after the acute onset. the ophthalmologist will find scattered throughout the everted lid conjunctivae, small yellow discrete ulcers, deeply situated in the chemotic conjunctiva, which is of a vivid scarlet color. Dr. Vail, Sr.,[4] has picturesquely said, "they look like yellow polka dots in a piece of turkey red calico." As a general rule the cornea is not involved and the bulbar conjunctiva is not invaded. In two cases however, single ulcers have been described in the bulbar conjunctiva and in one case there were nodules. There is a scanty muco-watery discharge, generally straw colored, which is sufficient to glue the lashes together. The patient is obviously ill and complains of pain in the eye. As the course of the disease progresses, the ulcers tend to become nodular and covered over by a thin membrane. This may be found any time after the 17th day of the disease. The active conjunctivitis continues for about five weeks. when the swelling gradually recedes and the nodules disappear without leaving any scar. Several months later one can often find a thickened and congested conjunctiva in the retrotarsal folds. The glands on the other hand, persist for many months and may go on to suppuration. The patient is usually incapacitated for six months or longer.

Smears and cultures of the conjunctival sac, taken any time during the course, are always reported negative except for a few secondary invaders, such as the Xerosis bacillus, staphylococcus or streptococcus. One can not succeed in growing the culture on egg yolk media by direct inoculation. After an emulsion is made from the conjunctival scrapings and injected into the peritoneum of a guinea pig, the guinea pig will die within five to seven days, from septicemia. Autopsy reveals the presence of

minute yellow dots scattered throughout the liver and spleen. The lymph nodes are enlarged and hard. Cultures taken from the spleen or liver foci will readily grow on egg yolk media.

There has been a mortality of 24 cases out of 654 reported cases of all types. *Three of the thirty-four eye cases have resulted in death.*

BACTERIOLOGY

(From Francis' "Summary of Present Knowledge of Tularemia."[27]

Bacterium tularense is a small, pleomorphic organism, Gram-negative, non-motile and non-spore-bearing. It grows only under aerobic conditions. Its optimum temperature is 37° C., and its optimum pH range is between 6.8 and 7.3 It ferments glucose, levulose, mannose and glycerin, forming acid but not gas. It grows well on coagulated egg yolk and blood-glucose-cystine-agar, but not on ordinary laboratory media such as plain agar, plain bouillon, gelatin, potato and milk. Bacillary, coccoidal and bipolar forms are noted. In smears, it stains well with crystal violet or aniline gentian violet, and in sections it stains best with Giemsa solution. In three of eight attempts it passed through Berkfeld filters which held back a small staphylococcus.

Heat. A temperature of 56° to 58° C. kills the organism in cultures and in spleen tissue in 10 minutes. Thorough cooking renders infected tissue harmless.

Formalin. Cultures suspended in saline solution containing 0.1 per cent of formalin (37 per cent strength) are rendered non-virulent after 24 hours.

Trikresol. Spleen tissue, rubbed up in 1 per cent trikresol, was free from infection after 2 minutes.

Glycerin. Pure undiluted glycerin into which cultures or spleen tissue are placed preserves the virulence 1 month at room temperature, 6 months at 10° C., and 1 year at —14° C. Glycerination in conjunction with annual or semi-annual animal passage serves to perpetuate the virulence of a strain for years.

Freezing. Spleen tissue frozen at —14° C. loses its virulence in 1 month. Frozen rabbits are infective for 3, but not for 4 weeks.

Drying. The virus resisted drying in bedbug feces for 26 days.

AGGLUTINATION

(From Francis' "Summary of Present Knowledge of Tularemia.")

1. "There was a complete absence of agglutinins for tularense in the first week of illness.

2. Specific agglutinins were always present at some time in the second week.

3. There was an abrupt rise in the agglutination titre in the third week.

4. A fall of titre began in the eighth week.

5. A gradual diminution in the amount of agglutinin took place until at the end of the first year, the average titre of 21 cases was 1:140.

6. Specific agglutinins remained for years in blood of long recovered cases and did not disappear from any case, even 10, 11, 12, 15, 18, 19 or 24 years after recovery.

SUSCEPTIBILITY[27]

(1) High susceptibility in man, monkey, ground squirrel, rabbit, guinea pig, mice, woodchuck, opossum, young coyotes, pocket gopher, porcupine and chipmunk.

(2) Slight susceptibility in rats, cats, sheep and goats.

(3) Non-susceptibility in horse, cattle, hog, dog, fox, chicken and pigeon.

TRANSMISSION AMONG ANIMALS[27]

Blood sucking insects, lice, flies and ticks, are believed to transmit the infection from rabbit to rabbit in nature, thus contributing to the maintenance of infection throughout all the months of the year and perennially.

SEASONAL INCIDENCE[27]

Ticks (March to August) and flies (June to September) have a seasonal prevalence and rabbits are protected by law, save in certain months (November to February).

OCULAR PATHOLOGY

There have been no histo-pathological studies of the conjunctival lesions made. Vail, Sr., says the solitary lymph nodes of the conjunctive are effected and the ulcers which extend through to the tarsus are punched out and filled with necrotic yellow plugs. Sattler excized a small nodule from the bulbar conjunctiva which appeared five weeks after onset of the conjunctivitis, with immediate exacerbation of the local and general condition, lasting two weeks. Histological examination showed a granuloma, but no giant cells and portions of this node did not produce the disease on injection into a guinea pig. In one case conjunctival scrapings taken on the 21st day did not produce the disease in a guinea pig. (Vail, Jr.[11]). The general pathology need not concern us here. It has been well gone into (Wooley, Simpson) and described. There are briefly, areas of focal necrosis scattered throughout spleen, liver and lymph nodes.

DIAGNOSIS

1. Parinaud's Conjunctivitis.

This disease might be called the "bête noire" of ophthalmology. A study of the literature reveals innumerable cases, few of which can be definitely grouped. It appears that any kind of unilateral conjunctivitis with regional lymph adenitis has been called "Parinaud's" by the observer, and in the majority of cases, little or no attempt was made to run the etiological factor to earth, especially by the American authors.

Perhaps it would not be out of place to return to Parinaud's original description (Morax—French Encyclopedia, Vol. V., page 774).

"The affection is ordinarily monocular. It resembles at first glance a granular conjunctivitis. The conjunctiva is the seat of red or yellow vegetations, semi-transparent at the beginning, opaque at a later stage, which can reach the size of a large pin head. Alongside of these fleshy granulations, one finds very minute ones entirely yellow, which at first made me think of tuberculosis of the conjunctiva. In one case these

granulations were limited to the tarsal conjunctiva of the upper lid. In two other cases they occupied the two lids, the cul-de-sac and a part of the bulbar conjunctiva. The cornea does not appear to have any tendency to be involved.

There is a mucous secretion with very dense fibrinous deposits but no actual suppuration.

The lids are swollen, firm to the touch, with nodules which makes one think of chalazia.

The parotid region becomes very rapidly the seat of an inflammatory swelling which can extend to the neck and in the midst of which one discovers swollen and sometimes softened glands.

There is fever with irregular chills. It can persist for a very long time, but always remains moderate and does not gravely react on the general state.

The swelling of the parotid diminishes towards the fifth week but the glandular enlargement persists. Some disappear by absorption, others suppurate. The evolution of the abscesses is very slow."

For convenience therefore, one can follow the outline suggested by S. Gifford[37] and submit the following groups:

A. *Leptothrix conjunctivitis* (Verhoeff). In 1913 Verhoeff[35] discovered a leptothrix in a case clinically diagnosed as Parinaud's. Since then he analyzed 18 cases in his experience, in 17 of which he found the leptothrix.[10] Of all the clinical forms this comes most near to Parinaud's original description. Verhoeff's description follows:

"Parinaud's conjunctivitis, or leptothricosis conjunctivae, is a subacute inflammatory condition of the conjunctiva due to infection with a minute leptothrix, and is always associated with inflammatory enlargement of the preauricular or other regional lymph glands. The source of the infection is unknown. In some cases there is a history of slight trauma to the conjunctiva preceding the infection. The incubation period is from three to seven days. The glandular enlargement is synchronous with the onset of the ocular symptoms. The essential conjunctival lesions consist of focal areas situated immediately beneath the epithelium, infiltrated with endothelial phagocytes in various stages of necrosis. Clinically these foci appear as opaque greyish areas from about ½ mm. to 4 mm. in diameter. In individual cases they may be single or multiple, and may occur in any part of the conjunctiva including the bulbar portion. They contain the leptothrices in great numbers. Beneath these areas more or less granulation tissue is produced which may cause the conjunctiva to project in the form of polypoid nodules. The latter occur chiefly on the fornices. Ulceration seldom if ever occurs. In the affected regions, the conjunctival tissue is congested, edematous and densely infiltrated with chronic inflammatory cells, among which plasma cells largely predominate. In marked cases this causes the fornix to become everted and to project like a curtain over the cornea. Frequently the normal conjunctival lymph follicles are greatly enlarged. The congestion and edema extend through the whole of the lids so that in severe cases ptosis may result. The conjunctival secretion is slight in amount and mucopurulent in character. The cornea is unaffected. The local subjective symptoms are not severe, and constitutional symptoms are slight or entirely wanting. The affected glands seldom break down.

The disease is almost if not always unilateral, attacks almost exclusively children and young adults, and males more frequently than females. It is most prevalent in winter, and so far as known, is never transmitted from one individual to another. The most efficient treatment is excision of the grey areas and nodules. The duration of the eye symptoms after this treatment is from one to five weeks. The glandular enlargement may persist for a considerably longer period."

Leptothrix has been found in similar cases by Keiper, LeMoine, Dunphy, Dean, Wherry and Ray, and Gifford. This pretty well establishes the unity of this disease and because of its marked resemblance to Parinaud's original description, deserves first place. Gifford, S. R.,[37,33] in describing three cases mentions eosinophilia and believes this may play some part in the differentiation of this disease.

B. *Tuberculosis of the Conjunctiva.* Several cases have been reported, the clinical signs of which closely simulate Tularemia except in its most typical form[28,29]. The chief point in differentiation lies in the gradual onset in tuberculosis. This sign however, is not necessarily to be trusted and laboratory tests, such as will be outlined below should be carried out.

C. *Syphilis of the Conjunctiva.* Here there is always an induration so well marked that one would not confound the soft vegetations of Parinaud's or the nodular swellings of Tularemia with the indurated surface in syphilis. The erosive surface of the chancre is usually covered over by a pseudo-membraneous exudate.

2. *Severe Conjunctivitis Caused by a Small Gram-negative Bacillus.*

This group so closely resembles Tularense conjunctivitis that it might be identical.

A. *Necrotic Infectious Conjunctivitis.* (Pascheff.) In 1914 Prof. Pascheff[42] of Sofia described three cases of a peculiar conjunctivitis, which he studied carefully. The disease began with malaise, loss of appetite and increase in temperature. Only one eye was affected. The preauricular and submaxillary lymph glands were enlarged on the affected side. Locally, the condition began with itching and redness of the lids. The lid borders became thickened. Moderate photophobia and lacrimation. The tarsal conjunctiva and conjunctiva of fornix somewhat were thickened by infiltration, but were smooth. Minute points and spots, which varied in size, were seen in the conjunctiva, especially of the tarsus and fornix. The spots had ill defined edges, entirely superficial, and when their surface was rubbed, some necrotic tissue was scraped away and left a shallow superficial ulcer, which healed without a scar. The disease has three stages, 1. Formation of conjunctival necrotic areas, 2. Stage of ulceration, 3. Stage of repair. Conjunctival process covers between 2-3 weeks. The involvement of the lymph glands lasts longer than

the conjunctivitis, and the skin covering them is red and painful to the touch.

Material injected intraperitoneally into a guinea pig resulted in the pig's death in 7-8 days. The spleen showed small white areas." (Abstract from Ophth. Year Book XVI, 1920, pp. 68.)

The organism named Micrococcus polymorphous necroticans is Gram-negative, grows well on ordinary media and differs in other cultural characteristics from the Tularense bacillus.

In my opinion, however, its claim as a separate disease entity rests mainly on the fact that pure cultures are said to cause the disease on inoculation into guinea pigs. Prof. Pascheff however, has not sent blood specimens from his patients to Francis as the latter requested, so that agglutination tests with B. tularense might be carried out.

Except for Pascheff's cases, no other case reports on this disease have reached my attention. H. H. Stark[46] of Texas reported four cases of conjunctivitis, which he arbitrarily called Pascheff's disease. Except for smears and cultures which were negative, there were no laboratory studies made and his paper is consequently of no importance. So far as the clinical descriptions go, his cases could have been, and probably were, Tularemia.

B. *Conjunctivitis Pseudotubercle Rodentium.* In 1919 Bayer and Von Herrenschwand[47] found in two cases of conjunctivitis, numerous small nodules which either went on to ulceration or absorbed without scars. The preauricular and cervical glands of the same side were affected. The cause was a variety of the Bacillus pseudotuberculosis rodentium, an organism which closely resembles the Bacillus tularense.

3. *Sporotrichosis.* Morax[50] in 1909 reported the first case of sporotrichosis of the conjunctiva. Gifford, H.,[49] reported the next case. Bedell[51] the next and finally Wilder and McCullough[52] in a classical paper published in 1914, described a case which showed small yellow ulcers on the conjunctiva and lymph adenopathy.

The description in Fuch's[54] Text-book of Ophthalmology, sums up our knowledge concerning this disease, as follows:

"This rare disease is caused by various species of sporotrichon and produces small, light yellow, soft nodules in the conjunctiva with points of ulceration and with purulent discharge. There is swelling of the neighboring lymph glands. Nodules also occur in the lid margin. The canaliculi may contain concretions enclosing the sporotrichon."

A culture on any of the usual media is so characteristic that it cannot be mistaken for anything else. It develops in from 3 to 10 days.

4. *Agricultural Conjunctivitis.* Patten and Gifford[55] in 1921 described a severe monocular conjunctivitis with regional lymph gland involvement, the chief characteristics of which are, 1. very pronounced swelling and redness of the lids, 2. involvement of the regional lymph nodes, 3, presence of more or less extensive skin lesions, and 4, *a dense and decidedly adherent false membrane.* The temperature may be 99.5 to 101 F. at the start, dropping to normal in a few days.

This disease should not be confused with Tularemia since no cases of the latter showed a false membrane at any time.

5. Other conjunctival diseases which might simulate Tularemia, are streptothrix and acute trachoma.

LABORATORY STUDIES TO BE CARRIED OUT IN A CASE OF PARINAUD'S SYNDROME.

Pascheff[14] in 1924 suggested the substitution of the term Parinaud's Syndrome in place of Parinaud's conjunctivitis, as signifying a unilateral conjunctivitis with regional lymph adenitis. This term has since been adopted by various authors, and should be more generally utilized.

All cases then, presenting a unilateral conjunctivitis with lymphadenopathy should be carefully studied, as follows, in order to discover the etiological factor:

1. *Smears and Cultures.* The cultures may show sporothrix. If egg yolk medium is used, inoculated under partial tension and anaerobic conditions carried out, one might succeed in growing leptothrix as Wherry and Ray have done. (J. Inf. Dis., 1918, xxii, pp. 554.)

2. *Conjunctival Scrapings Injected into a Guinea Pig.* This may reveal Tularemia in 6-7 days.

3. *Excision of Conjunctival Lesion.*

Half of which should be used for histopathological studies.

(a) This is of importance since so far there has been no description of the histology of an ocular lesion in Tularemia. (b) A section should be stained by Verhoeff's method (see Archives of Ophthalmology, Vol. 62, pp. 349) to demonstrate leptothrix. (c) A section might show typical tuberculosis foci.

The other half should be emulsified and injected intraperitoneally into a guinea pig. This is to demonstrate either Tularemia, tuberculosis or Pascheff's organism. It is possible that the new potato medium discovered by Corper and Uyei[41] can be utilized to grow the tubercle bacilli.

4. *Blood from the Patient.*

Enough should be taken (a) to perform a Wassermann test, and (b) to be sent to Dr. Edward Francis, the Hygienic Laboratory, 25 E. Street, Washington, D. C. for agglutination tests for Tularemia.

5. *Differential Blood Count for Eosinophilia.*

If the above studies are carefully carried out there will be few cases of Parinaud's syndrome, the etiological factor of which remains an unknown quantity.

Treatment of Ocular Tularemia. There is no specific treatment. A vaccine has been used in two cases (Lamb, Vail, Jr.) with marked febrile reaction resulting. Wherry suggests that this might be of value in diagnosis at least, acting very much like the Mallein test in glanders. The therapeutic value of vaccines however, is doubtful. In spite of frequent instillations of mercurochrome for 24 hours in one case (Vail, Jr.) Wherry succeeded in killing a guinea pig with the bacillus obtained from a conjunctival scraping.

Argyrol, protargol, neo-silvol, boric acid solution

and the other usual collyria have been used without any specific action.

Perhaps the best local treatment, in view of our limited knowledge in this respect, is continuous hot applications of magnesium sulphate, sodium chloride solution and frequent lavage of the conjunctival sac with a mild antiseptic solution, such as boric acid, or sodium biborate, or even saline.

The general treatment should be supportive and the usual measures in a febrile disease carried out.

If the glands suppurate, they should be incised.

Acknowledgment. I wish to express here my thanks to Dr. Edward Francis, Dr. George McCoy and Dr. Walter Simpson for their kindness in supplying me with data and references. Also to the following, who not having reported their cases of ocular tularemia in the literature, kindly supplied me such information in a questionnaire:

Drs. E. E. Whedon, Sheridan Wyoming; M. C. Pfunder, Miles City, Montana (two additional cases); Henry Blum, New Orleans, Louisiana; V. L. Bigler, Kinston, North Carolina; H. F. Carman, Butte, Montana; M. L. Norwood, Lockesburg, Arkansas; W. T. Ward, Salt Lake City, Utah; W. R. Morrison, Billings, Montana (two cases).

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56. See also Discussion of H. H. Stark's Paper. Trans. Oph. Sec. A. M. A., 1924, 60.

ACUTE FOOD SICKNESS
ACUTE FOOD INFECTIONS, INFESTATIONS, INTOXICATIONS AND POISONINGS*

G. KOEHLER, PH.G., M.D.
Assistant Commissioner of Health
CHICAGO

The question of definitions always occurs in dealing with the subject of acute illness resulting from the ingestion of food. This is on account of the uncertainty in regard to the nature of some of these maladies, and especially because of the confusion that has existed and still exists in reference to their etiology.

The term "ptomaine poisoning," under which many of these cases were classed two decades ago, has come into disfavor, and rightly so, because the newer research has demonstrated that the so-called "animal alkaloids" are rarely the true causative agents.

A recent classification of the abnormal conditions, brought about through the media of ingested foods, is that used by Damon[1] in his treatise on the subject, "Food Infections and Intoxications." Under food infections he classes paratyphoid from food, tuberculosis from milk and meat, undulant fever and septic sore throat from milk, and actinomycosis. Under infections as a sub-class, he includes the zoo-parasitic diseases acquired through food, such as trichinosis, taeniasis and other parasitic infections. Under food intoxications he includes botulism, mushroom poisoning, grain intoxication, milksickness, potato poisoning, fish and shellfish poisoning. The basis of his classification is that the transmission of infection is obligate by means of food. Although this classification is comprehensive and includes such diseases as tuberculosis, actinomycosis and taeniasis, in which the manifestations of diseases are not evident until the lapse of considerable time after the ingestion of the infected food, it does not include typhoid, cholera, dysentery, and the diarrheas of infancy, where the effect is as immediate as in some of the diseases included in his category of food infections.

Jordan,[2] in a treatise on the same subject, applied the term food poisoning to a more comprehensive group of conditions. In addition to those included by Damon, his classification embraces the conditions resulting from the addition of inorganic and organic poisons to food, including various preservatives, coloring substances and food substitutes. This group of food infections is more comprehensive, in that it includes typhoid, cholera and all of the other well known food-borne infections. In a final chapter he includes the deficiency diseases, such as beri-beri, pellagra, scurvy and rachitis.

While it is true that these classifications embrace a large majority of the conditions in which food is a causative factor, it is also true that they include conditions which are not ordinarily thought of when speaking of food infections, intoxications or poisonings. In practice the sickness contracted through food constitutes a group of conditions where the effects of infection or poisoning manifest themselves quite acutely. In other words, this class is distinct in its etiologic and clinical aspects from the more chronic diseases such as tuberculosis, actinomycosis, rachitis and from the infectious diseases, such as typhoid, cholera or dysentery, even though these diseases are due to food infection.

A specific term should be adopted to cover this group of diseases. "Acute Food Sickness" would be an appropriate descriptive term. The acute sickness, contracted through food, may be divided into five sub-classes as follows:

First, the infections with the paratyphoid-enteritidis or allied groups of organisms.

Second, acute zoo-parasitic infestations, like trichinosis.

Third, bacterial intoxications, such as botulism.

Fourth, poisoning from inorganic or organic substances, including dyes and food preservatives, and poisonous compounds formed naturally in the food, as in the case of mushrooms and potatoes, or natural ingredients mixed with the foods, such as ergot or poisonous substances from other plants, such as white snakeroot in milksickness.

*Read before the Section on Public Health at Annual Meeting of Illinois Medical Society, Peoria, May 22, 1929.

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Fifth, cases of unknown origin. A majority of the cases of acute illness from food fall in this class at the present time. The history of these cases usually indicates very definitely that a certain article of food is related to the condition; but chemically and bacteriologically no evidence of infection, infestation, intoxication or poisoning is found.

Cases Reported in Four Years. The manifestations of acute sickness from the ingestion of food are common occurrences, certainly much more common than the records of the health departments indicate. In many instances the exact causative agent cannot be determined. as is evident from the series of cases hereinafter reported that came to the attention of the Chicago Department of Health during the last four years. (See table at end of article.)

This shows that there were 133 occurrences, with a total of 851 cases during these four years. The cause was determined definitely by laboratory tests in only 22, or 16.5 per cent., of the total occurrences. In 13 of these, the cause was found to be a poisonous chemical, leaving only 9, or 6.8 per cent., of the total occurrences traced to food infection, infestation or intoxication.

The fact that laboratory examinations proved negative in 83.5 per cent. of the occurrences requires a word of explanation. In every case a thorough investigation was made by specially trained men of the department. A complete history was obtained and samples of all available suspected foods were collected; these samples were subjected to chemic, bacteriologic and serologic tests. In many instances feeding experiments were conducted. All the laboratory work was done under the supervision of Fred O. Tonney, Director of Laboratories of the Chicago Department of Health.

It has been the policy of the Chicago Department of Health to concentrate on the investigation of these cases and consequently the field and laboratory work has been well developed to cover all phases of the study of such outbreaks in a thorough manner.

One difficulty has not been overcome, and this is one of the reasons why such a large number of the investigations yielded negative results. This is the delay so often experienced in starting the inquiry, due to the fact that the cases were not as promptly reported as the city ordinance requires. In many instances the first notice of the occurrence of cases was gleaned from newspaper accounts of the outbreaks; consequently, samples of foods actually consumed and suspected of being responsible for the particular outbreak, or samples of vomitus and of other specimens necessary to complete the inquiry could not be obtained at the time of the investigation.

Food Infections. Of the total of 851 cases of acute cases investigated, where food was suspected of being the media of transmission, 121, or 14 per cent.. were found to be due to infection by the paratyphoid-enteritidis or allied group of organisms. The foods involved in these cases were:

Food	No. of Cases
Custard Cream Puffs	16
Crab Meat	105

The following two occurrences are typical examples of food infection found to be due to this kind of infection:

An Outbreak of Acute Food Sickness Due to the Ingestion of Custard in Cream Puffs: This occurred on June 28, 1928, and involved 16 persons. The onset occurred on an average of from 2½ to 3½ hours after ingestion of the food in question. In two cases symptoms occurred in from 10 to 15 minutes. All complained of vomiting, cramps, diarrhea, dizziness and cyanosis. Prostration was marked in most of the cases. No deaths occurred.

The cream puffs found responsible for this outbreak were prepared in a local bakery where bad sanitary conditions were found. The bins, troughs, tables and machinery were incrusted with dirt and dough. Thirteen of the persons taken sick bought the cream puffs from a store supplied by this bakery, and the other three bought them directly from the bakery. The cream puffs obtained from the store were from two lots that had become mixed, one of which had been delivered the day previous. No other food was eaten in common. In four cases, cream puffs were the only food consumed. Samples of cream puffs and all the ingredients entering into their manufacture were obtained and examined. Tests for poisons were negative. Feces and urine of the persons who prepared and handled the cream puffs were examined and found negative.

Bacteriologic examination showed the presence of an organism in the custard that corresponded

closely to Escherich's paragruenthali. This is related to the B. coli group. Chemical examinations for poisons were negative. A sixty-hour physiological test for poisons on white mice was negative. Kreis' test for rancidity was positive.

In connection with the recurring outbreaks of food infection from custard in cream puffs and chocolate eclairs, four of such occurrences being brought to the attention of the department in 1928, with a total involvement of 58 persons, an intensive survey was made of the bakeries making such products, and samples of the fillings were taken and subjected to bacteriogic examination. In a series of samples from 28 bakeries investigated in the middle of December, it was found that the counts in the finished product on the day of manufacture ranged from 500 to 130,000, excluding one sample which showed a bacterial count of 3,200,000. The average count for the 28 samples taken from the freshly prepared product was 129,500; sixteen showed B. coli positive in one gram.

It was found that after these cream puffs had been kept in the bakery for 24 hours and reexamined that the bacterial count had risen tremendously, averaging 2,300,000 for the entire lot, and ranging from 9,000 to 7,000,000, and, in one instance, to 24,000,000.

It is also interesting to note that after the matter of preparing and handling the cream puffs had been investigated by the department the dangerous practices discovered and pointed out to the trade and a set of definite rules promulgated and enforced, great improvement resulted. No outbreaks of acute food sickness from cream puffs or chocolate eclairs have occurred since then.

An Outbreak Apparently Due to Infected Crab Meat: This occurred among 1,589 guests served at a convention banquet held at one of the large hotels in the city on September 13, 1926. The occurrence of cases of food sickness was not brought to the attention of the Department of Health until three days after the banquet. At the time only 155 diners remained in the city; of these, 105 stated that they had been made sick within four to twenty-four hours after partaking of the meal. They complained of nausea, diarrhea, dizziness and headache. All recovered within 48 hours.

An inspection showed that the kitchen was in good sanitary condition and that only the best grades of food were served. Excreta examinations of the entire personnel of the hotel kitchen and dining room service proved negative.

The meal consisted of the usual articles of food served at banquets. It was found that of the 105 diners who became ill, 101 had eaten crab meat; 95, olives; 102, filet mignon; 97, mushrooms; 102, peas; 91, salad, and 90 ice-cream. Samples of only two of the articles of food suspected could be secured for examination, namely, the crab meat and mushrooms.

The results of the examination of the crab meat have been reported by Geiger, Greer and White.[3] They found an organism which resembled culturally very closely the salmonella suipestifer. It was not agglutinated by antisera from six known strains of S. suipestifer, but was agglutinated by its own homologous serum in high dilutions. Injections of cultures, filtrates and washed organisms, grown in broth, resulted in the death of a high percentage of mice when 1 c.c. was injected. The heated filtrates did not cause the death of mice. Antisera from rabbits, injected intravenously at frequent intervals with sterile filtrates of organism found, failed to protect mice injected with unheated filtrates.

Zoo-parasitic Infestations: It is interesting to note that only six cases of trichinosis or other acute zoo-parasitic infestations were brought to the attention of the Health Department during the past four years. In 1923, six, and in 1924, fourteen cases of trichinosis in man, confirmed by laboratory examination, were reported.

Since October, 1924, an order has been enforced which prohibits the use of pork in sausage unless such sausage is heated to a penetration temperature of 137° F., or the pork is previously frozen for 21 days at a temperature of not higher than 5° F.

Bacterial Intoxications: Two occurrences of bacterial intoxication were noted during the last four years. In both instances botulism was found to be the cause. Each outbreak involved only two persons. The one occurring in 1925 was due to canned peas and resulted in the death of the two persons infected; the other was an attack of botulism that occurred recently affecting two brothers, one of whom died.

Botulism Due to Imported Canned Onions: This oc-

3. J. C. Geiger, Frank E. Greer and John L. White, Bacterial Flora of Ground Meats, American Journal of Public Health, May, 1928, p. 602.

currence followed the ingestion on January 23, 1929, of canned onions, so-called shallots, imported from Italy. Two brothers, M. and P., ate sandwiches at noon containing these shallots, prepared with olive oil, pepper and salt. Milk and cake were the only other foods eaten by the brothers at this meal; and no other members of the family ate the shallots. M. ate one sandwich, while P. partook of two or three.

It was reported by M. that the cans containing the shallots showed no signs of bulging, but that his wife had noticed, on removing them from the can, that they had a bad odor and did not look just right.

P. was taken sick just before he quit work on the same day. He vomited and complained of pain in his eyes and throat. On the following morning he was worse and complained of seeing double. On that afternoon he was seen by Dr. Amos De Feo, who sent him to a hospital that evening. The hospital reports that he was semi-comatose on arrival, but could be roused, had difficulty in speaking, and that a fruity odor was observed on his breath. His pupils were dilated and fixed. Fundus examination showed the disk pale, with a white center. Respiration was jerky; reflexes of abdomen, chest and heart were negative; temperature was subnormal (95 to 96). A paralysis of the throat muscles was noted, and there was a marked facial paralysis. Death occurred from respiratory paralysis on the evening of January 25.

M., the brother who ate only one sandwich, went to work the same as usual on the day following the noonday lunch, but did not feel just right and had eaten no breakfast; took a chew of tobacco and vomited soon after; had pains in the stomach during the afternoon and quit work. At home that evening, he suddenly developed chills and noticed that he was seeing double.

On the afternoon of January 26, he was found in bed with a bandage over his eyes. He complained of sore throat and had difficulty in swallowing; felt dizzy, and continued to see double. Conjunctiva was injected. Eyelids showed slight ptosis; pupils were widely dilated, but equal, and responded very slightly to light. Pulse, 100; temperature not taken. Patient seemed entirely rational and gave a clear account of his own and his brother's illness; stated that he felt all right, except for his eyes.

Polyvalent botulinus antitoxin, obtained from the University of Chicago, was administered by Dr. William E. Cary at 5 p. m. on January 26; a dose of 8,000 units was given, and this was repeated on the following day. On January 28 the diplopia disappeared, but the patient still complained of a slight haziness of vision in one eye. The dizziness disappeared after the administration of the antitoxin, and the general condition improved rapidly.

The empty can in which the shallots were contained was recovered and examined in the Health Department laboratory. Washings from the can showed the presence of B. botulinus type B. The toxin from this organism was found by animal test of cultures made from the kidney of the victim.

Food Poisoning. The majority of the cases of acute illness from the ingestion of food containing poisonous chemical substances are due to an accidental admixture of these ingredients. The most common source of the arsenic thus frequently found is the careless distribution of rodent poisons in places where food is stored or handled.

A new source of chemical contamination has been brought to the attention of the department several times during the past year, that is escaping gas from leaking pipes in domestic refrigerators. The department is now engaged in a comprehensive study of the effects of such contamination and of the measures necessary to prevent such occurrences.

Cases of Undetermined Origin. It is not claimed that the 111 occurrences and 652 cases of acute illness, apparently due to food, where the cause was not definitely determined by laboratory tests. listed in this report, constitute the only ones of this character that occurred in the city of Chicago within the last four years. Every general practitioner of medicine sees many occurrences of this kind. The symptoms in the milder cases are such that it is difficult to differentiate them from those resulting from functional disturbances of the gastro-intestinal tract due to dietary indiscretions.

Some of the limited or family occurrences of acute food sickness may be due to a single package of food that had been spoiled or contaminated before delivery to the consumer. Many others are due to spoilage resulting from careless handling, improper preservation, or inadequate refrigeration of foods in the home. Accidental contamination with rodent poisons should also be considered, or the possibility of a human carrier of the infection.

Diagnosis. In many occurrences, especially where only one or two persons are involved, a diagnosis of acute food sickness is hard to make, except in cases of botulism, where the symptoms are characteristic and the laboratory findings definite.

Poisoning by chemical substances must always be considered and can be ruled out definitely only by laboratory tests. The same is true of parasitic infestations. Cases found to be due either to poisons or to parasites are etiologically distinct and are classed under their specific

causes after a definite diagnosis has been made.

The bacterial food infections are the most difficult to diagnose. In the present stage of our knowledge, the epidemiologic investigation must be relied upon, rather than the laboratory findings in determining the true nature of the cases

CASES OF ACUTE FOOD SICKNESS
CHICAGO—1925

Date Investigated	Patients: Adults	Patients: Children	Suspected Food	Analysis of Suspected Food Actually Consumed	Probable Cause
1/ 5	3	4	Coffee Cake	Yes	Coal gas
3/24	1	3	Canned vegetables and pie	Yes	
4/16	4	..	Roast veal	Yes	Coal gas
5/14	3	..	Club sandwich	Yes	
6/18	1	1	Cooked chicken	No	
6/24	*4	..	Pancakes	Yes	Arsenic intentionally added
7/10	†4	..	Beefsteak	Yes	Sodium fluoride in biscuit flour
7/20	1	..	Green olives	No	
7/22	‡2	..	Canned peas	Yes	B. Botulinus type B
9/ 1	11	..	Cake	Yes	
9/ 4	1	..	Malted milk	No	
10/29	3	5	Fruit salad and roast veal	Yes	
10/30	..	2	Canned beans	Yes	
12/15	..	1	Roast veal	Yes	
12/29	..	1	Milk	Yes	Colic
	38	17			

Grand total..... 55

Summary	Occurrences	Cases
B. intoxication	1	2
Poisoning	2	8
	3	10

*Three fatalities.
†One fatality.
‡Two fatalities.

CASES OF ACUTE FOOD SICKNESS
CHICAGO—1926

Date Investigated	Patients: Adults	Patients: Children	Suspected Food	Analysis of Suspected Food Actually Consumed	Probable Cause
1/	2	1	Corned beef	Yes	Tests negative
1/ 4	2	..	Chop suey	No	
2/ 3	1	..	Salad dressing	Yes	Tests negative
7/ 1	2	..	Chocolate eclairs	Yes	Tests negative
7/16	7	..	Bottled water	Yes	Tests negative
8/ 2	1	..	Wine, sugar, salt, olive oil, cheese, vinegar	Yes	Tests negative
8/12	1	..	Ice cream cones	Yes	Tests negative
8/13	1	3	Indefinite	No	
8/27	..	2	Syrup, pears, banana	Yes	Tests negative
8/30	1	..	Clam chowder	Yes	Tests negative
9/23	105	..	Crabmeat	No	Organisms resembling B. suipestifer. Tests negative
9/30	2	1	Tomato soup; kidney beans	Yes	Tests negative
10/ 4	1	..	Mushrooms	Yes	
10/ 4	2	..	Mushrooms	Yes	Tests negative
10/13	1	3	Mushrooms	No	Fresh mushrooms
11/12	..	1	Licorice Whips	Yes	Tests negative
12/15	2	..	Candy	Yes	Tests negative
12/20	..	1	Candy	Yes	Maggots, wormy
12/21	4	..	Carbonated water	Yes	
12/24	2	5	Home-brew; mushrooms	Yes	
	137	17			

Grand total 154

Summary	Occurrences	Cases
Infection	1	105
Infestation	1	1
Poisoning	1	3
	3	109

and in differentiating them from gastro-intestinal disorders, or acute functional disturbances due to dietary indiscretions. Naturally, the epidemiologic data are of value only in determining the cause where a number of cases are involved.

In any mass infection there is always a certain proportion, often more than 75 to 90 per cent. of the exposures, that escape infection. The same proportion, applied to a small group, accounts for the development of symptoms in the isolated case while the others escape. Doubtless the lack of acidity of the gastric contents is a determining factor in the cases contracting the infection. Such isolated cases are extremely difficult to recognize, unless the laboratory findings are positive.

CONCLUSIONS AND RECOMMENDATIONS

1. Acute sickness from food is comparatively common. During the past four years 133 occurrences, involving 851 persons, were reported to the Chicago Department of Health.

2. In a large percentage (83.5 per cent. in this series) a definite cause cannot be determined by laboratory tests.

3. The cases where the cause is definitely determined fall into four classes, namely, bacterial

CASES OF ACUTE FOOD SICKNESS
CHICAGO—1927

Date Investigated	Patients: Adults	Patients: Children	Suspected Food	Analysis of Suspected Food Actually Consumed	Probable Cause
1/ 4	1	..	Soda crackers	Yes	Rancid crackers, positive rancidity
1/ 4 (office)	..	1	Wormy candy	No	Wormy candy
1/13	25	..	Entire meal	No	
1/25	3	4	Corned beef	No	
1/25	4	3	Corned beef	No	
1/27	2	3	Hamburger steak	No	
3/ 5	3	..	Sandwich and gravy	No	
3/11	22	..	Hash (ham)	Yes	Excess nitrites
3/15	3	3	Cake	Yes	Tests negative
4/ 1	..	4	Cooked Farina and milk	Yes	Tests negative
4/16	2	..	Sugar	No	
4/24	4	..	Candy	No	
4/29	2	4	Ice cream cake	Yes	Illuminating gas
5/13	1	..	Creamed codfish	Yes	Tests negative
5/19	1	6	Flour and sugar	Yes	Tests negative
5/24	3	..	Sausage (Italian)	Yes	Trichinosis
5/26	3	..	Raw lean meat	No	Trichinosis
6/25	2	1	Apple pie	Yes	Stale pie
6/27	2	..	Bread (pink mould)	Yes	Mouldy bread
7/ 6	..	3	Ice cream	No	
7/ 8	3	1	Fish	Yes	
7/13	..	4	Cocoanut cream pie	No	Stale cream pie
7/19	8	..	Indefinite	No	
8/ 8	2	2	Spareribs	Yes	
8/11	..	2	Candy and popcorn	Yes	Tests negative
8/17	3	..	Cooked steak	No	
8/18	2	..	Hamburger	No	
8/23	4	..	Roast beef	No	Excess sulphites
8/24	..	3	Chocolate eclairs	No	Stale eclairs
8/24	2	26	Raw milk	No	Raw milk served at summer camp
8/24	2	3	Chicken	Yes	
9/ 1	2	2	Fried steak, rice or flour gravy.	Yes	
9/ 2	2	1	Corned beef sandwiches	No	
9/22	6	3	Cake	No	
10/ 5	2	2	Cold pork sandwiches	Yes	
11/ 2	1	5	Canned corn	No	
11/11	2	..	Cake (Boston pie) custard cream filled	No	Stale mouldy cake
11/14	2	3	Canned plums	No	
11/16	2	4	Roast beef	No	
11/23	2	1	Fried oysters	No	
12/27	3	5	Bean soup	No	
Total	133	99			

Grand total..... 232

Summary	Occurrences	Cases
Parasitic infestations....	3	7
Poisoning	3	27
	6	34

(See 1929 table on page 289)

infection. parasitic infestations, bacterial intoxications and chemical poisonings.

4. Without definite laboratory findings it is difficult to distinguish between isolated cases of acute food sickness and gastro-intestinal disorders or functional disturbances due to dietary indiscretions.

5. Physicians and health departments should cooperate so that all cases of acute food sickness can be made the subject of prompt epidemiological and careful laboratory investigation. To this end all cases should be reported promptly.

CASES OF ACUTE FOOD SICKNESS
CHICAGO—1928

Date Investigated	Patients: Adults	Patients: Children	Suspected Food	Analysis of Suspected Food Actually Consumed	Probable Cause
1/23	8	..	Canned soup	Yes	Presence of emetic and purgative
1/24	1	..	Mushrooms	Yes	
2/3-5	19	..	Hollandaise sauce	Yes	Hollandaise sauce
2/ 9	1	..	Brussel sprouts	Yes	
2/17	2	..	Hamburger steak	Yes	B. coli present in all three samples
2/21	1	1	Chop suey	No	
3/ 3	1	1	Mutton soup	Yes	
3/12 (office)	1	..	Frankfurters	Yes	
3/13 (office)	1	..	Trichinosis suspect	Yes	Tests negative
3/20	..	1	Frankfurters	No	Acute nephritis
3/28	1	..	Canned salmon	Yes	Tests negative
3/30 (office)	1	..	Chop suey	Yes	Sample had glass
4/16 (office)	5	1	Pot roast	Yes	
4/16	1	..	Salmon	No	Organic heart disease
4/24	3	..	Flour	Yes	Tests for arsenic negative
4/26	2	..	Ketchup and sandwiches	Yes	Tests negative
5/15	2	2	Frankfurters	No	
6/ 5	4	..	Smoked ham	No	Decomposed meat
6/ 6	2	3	Candy	Yes	
6/21	2	2	Miscellaneous food	Yes	Arsenic poison
6/28	10	6	Chocolate eclairs	Yes	Tests positive. "Esherich's Paragruenthali a member of the coli group
7/ 2	2	4	Frankfurters	No	
7/ 5	1	..	Frankfurter sandwich	No	
7/ 9	1	..	Canned pea soup	No	
7/17	3	1	Tapioca pudding	Yes	
8/13	3	3	Ice cream cone	No	Chronic appendicitis
8/ 2	3	1	Mushrooms	Yes	Amanita muscaria
8/ 7	7	4	Veal	Yes	Gastro enteritis
8/13	3	3	Pot roast	Yes	
8/27	1	2	Chop suey	Yes	Chemical poison
8/30	3	..	Chicken salad sandwich	Yes	Tests negative
8/30	3	..	Chicken salad sandwich	No	
8/30	7	..	Chicken salad sandwich	No	
8/30	8	..	Chicken salad sandwich	No	
9/ 4	2	..	Roast rump beef	Yes	Excess sulphites
9/13	..	2	Frankfurters	No	
9/24	2	..	Chocolate eclairs	No	
10/ 2	5	..	Pickled beets and gravy	Yes	Chemical tests negative
10/ 9	1	..	Canned salmon	Yes	Chemical tests negative
10/18	165	..	Entire dinner	Yes	Chemical tests negative
11/15	15	14	Chocolate eclairs	Yes	Tests negative
11/17	1	..	Cake	Yes	Chemical tests negative
11/19	7	4	eclairs	Yes	
11/26	2	..	Chicken salad	No	
12/ 7	2	..	Canned peas	Yes	Chemical tests negative
	11	4			
	233	32			
	68	17			
	312	53			

Total 365

Summary	Occurrences	Cases
Infection	1	16
Poisoning	6	22
Intoxication	1	4
Total	8	42

OBSCURE EAR DISEASE IN THE FIRST YEAR OF LIFE*

M. H. COTTLE, M.D.
CHICAGO

In the first year of life the anatomy of the ear is different from that in the adult. The eustachian tube is shorter, wider and more open. The tympanic cavity contains myxomatous tissue in varying amounts and folds of mucous membrane divide the cavity into many smaller complete and incomplete cavities. The antrum is relatively large and the bone surrounding it is softer, diploetic, and thinner. The cortex over the antrum not infrequently contains cartilage remains.

The anterior and posterior walls of the external auditory canals are more approximated and the osseous portion of the canal, especially the superior wall, is not yet well developed. The drum membrane is thicker and more resistant and lies in a more horizontal plane. Therefore the superior boundary of the drum membrane lies definitely more lateral than the inferior boundary. The vascular supply is relatively more abundant and the lymphatic drainage from the middle ear and the antrum, is easier and greater. All these factors contribute to obscure a clinical aspect of pathologic processes which would be evident under similar conditions in the older child or adult.

For example, in an infant an infection of the middle ear does not immediately or necessarily mean the involvement of the whole mucous membrane. Because of the persistence of embryonic tissue in the cavity and the folds of succulent mucosa, which traverse it, the infection may be limited to a single division of the tympanic cavity, or, two or more small isolated areas may be infected with the intervening tissue relatively normal. In the case of the former, perhaps, the drum would appear just slightly reddened; the landmarks being practically normal. In the case of the latter, perhaps, just a fullness of the drum with suggestion of normal landmarks may be seen. In both these instances, however, the general tendency would be to treat very conservatively. Yet the thickness of the drum prevents early spontaneous perforation and the infection continues to spread. The mucous membrane of the middle ear absorbs the products of infection very readily, and we have the clinical picture of an ill child with high temperature and other symptoms which might easily be mistaken for a non-otogenic disease. In a word, the appearance of the drum membrane is too frequently not an indication of the severity of the ear disease present.

When the infection spreads through the attic and involves the antrum, the middle ear infection may clear up; or, granulation tissue may form and practically separate the antrum from the middle ear. In both these instances, study of the drum membrane tells us again but little of the antrum pathology.

It is the contention of Dean, Alden, and others, that, in such instances, a sagging of the posterior superior quadrant of the drum membrane and the superior canal wall may be noted. Many observers have been unable to decide definitely that they can agree to the occurrence of this sagging.

Etiology. In infants certain etiological factors are also sometimes overlooked. Intracranial lesions and intestinal conditions which produce vomiting, are confused with diseases starting originally in the ear. Reguritated particles of food and debris may become lodged in the middle ear because of the short open eustachian tube, and instigate inflammation; not only because of the bacteria they may contain but also because of their own presence which act as other foreign bodies would. In infancy, intracranial complications of ear disease are relatively rare. Whether ear infection per se can produce serious intestinal distress, is still a mooted question.

In anemic, rachitic and premature infants, a given infection would be likely to produce more serious symptoms. The type of organism producing an inflammation is also a determining factor of the clinical course.

From this hasty survey, it seems that for an exact estimation of a given clinical picture in an infant, the following must be insisted upon.

1. Ears should be examined repeatedly. These examinations should be done after a very careful cleansing of the ear canal. The speculum should be small enough and short enough to make vis-

*From the Oto-Laryngological Service of the Children's Memorial Hospital.

*Read before the Section on Eye, Ear, Nose and Throat, Illinois State Medical Society, May 22, 1929, Peoria.

ability of the superior portion of the drum easy. (It should be remembered that it was pointed out by Gomperz that the crying of an infant produces some redness of the drum.) I believe, with Alden and his co-workers, that the use of an electrically lighted otoscope is of great value. In addition to this the ear should be studied with a head mirror, using a hand lense of about 10 diopters to magnify the drum.

By parallectic displacement, small swellings and bulgings of the drum membrane can be observed.

2. The evaluation of the general condition of the child by the pediatrician is of paramount importance.

3. Careful laboratory work and x-ray study of chest, urinary tract and head in questionable cases is necessary.

4. In the treatment of the middle ear, incision of the drum membrane in general should be done when any doubt arises, rather than wait, and should be repeated without hesitancy if deemed advisable. (It must not be forgotten that it is possible for infection of the middle ear to drain through the eustachian tube after paracentisis, and even persist for years without any rupture of the drum membrane) and as the following cases illustrate in case of doubt it is advisable in urgent instances to open the mastoids early.

In all these cases there was found post mortem a bilateral suppurative mastoiditis and with only one exception there was definite bone destruction. In all the clinical diagnosis was not made even though the ears were studied.

		Diagnosis	
Name	Age	Clinical	Post-mortem
J.L.	3 mos.	Pyelitis Otitis media ?	Bilateral mastoid, kidneys and other organs normal.
B.M.L.	6 mos.	Pneumonia Otitis media ?	Bilateral mastoid, pneumonia
R. J.	8½ mos.	Chronic meningitis	Bilateral mastoid, meningitis
M.W.	8 mos	Meningitis Otitis media ?	Bilateral mastoid, meningitis
D.V.	5 wks.	Pneumonia Rt. otitis media	Rt. mastoid; no bone destruction; Pneumonia
B.T.	2½ mos.	Chronic meningitis. Ears red	Bilateral mastoid, Meningitis
J.G.	7 mos.	Bilateral otitis media	Bilateral mastoid
R.V.	3 mos.	Slight otitis media Broncho - pneumonia	Bilateral mastoid Broncho-pneumonia

Intestinal Intoxication. There were 53 children in this group. The clinical diagnosis of intoxication, gastro-enteritis, or malnutrition with diarrhea was made in each. In all, however, there were vomiting, frequent loose and watery stools, dehydration, and loss of weight. With only medical and dietary treatment 11 (eleven) were discharged from the hospital as improved, one was taken from the hospital against advice unimproved, and two improved following mastoidectomy and dietary correction. One had a mastoidectomy several weeks after recovery and showed extensive destruction of the bone. Thirty-eight died, of which twenty-two were examined post mortem. In only nine were head examinations allowed and of these six presented bilateral mastoid pus and marked bone destruction. One had bilateral mastoid pus without bone destruction, one had pus in the right antrum only, and one had no mastoid disease macroscopically.

Of the seven which had bilateral mastoiditis (fourteen drum membranes) two presented perforated drum membranes with purulent discharge; in two the short process was seen; five had slight redness of drum; four had dullness of the drums; one had sagging of the superior canal wall. There was tenderness over the antrum in three instances.

Among those that died were five which were submitted to a mastoid operation. The ten mastoids thus studied presented various degrees of pathological change ranging from a drop of pus to extensive bone destruction. From all there was isolated one of two organisms, namely Pneumococcus—or streptococcus hemolyticus. In four there appeared to be improvement the day following operation, after which the condition changed for the worse. In the other death occurred twenty-four hours after operation. No case was operated on early, i.e., in the first two weeks of the illness.

If one be allowed with such a small series to compute percentages, it is seen that in the non-operated there was 25 per cent. recoveries; in the operated ones 28.57 per cent. But it must be said that those operated upon were in extremely poor condition at the time of operation.

Comment. It is the impression of the writer that mastoid operation in the later phases of intestinal intoxication offers no more than non-surgical treatment. But it is felt that in view of the work of others who have reported better

results and because of our own experiences, a series should be studied where operation is done early.

DISCUSSION

Dr. George W. Boot, Chicago: It seems to me that Dr. Cottle has done a very useful piece of work in getting up these cases. From St. Louis we have had reports of favorable results that are better than we have been able to get. They must have a different type of infection, or we do not operate early enough.

I have here two temporal bones, one from an infant and one from an adult, in which you can see the vast difference. The new bone has no mastoid, no external auditory canal; the Eustachian tube is as large in the infant as in the adult. In addition the antrum in the adult lies posterior to the upper part of the external auditory canal; in the infant it is almost exactly above the external auditory canal. Incision of the drum membrane in these cases is practically harmless and I think should be done very much earlier in cases where we have diarrhea and symptoms of dehydration. An ether rausch will save the patient much discomfort. You can do a paracentesis without any danger. A mastoid can be done very nicely under local anesthesia. This is the age when Wilde's incision gives results. Practically the whole operation can be done with a scalpel.

If this paper is the means of calling attention to careful examination of these babies and early operation, either incision of the drum or mastoid, much earlier, I think it will do a great deal of good.

Dr. Thomas C. Galloway, Evanston: This is a very interesting subject and I like very much the conservative way in which Dr. Cottle handled it. I have done about ten in a series of cases with about the same conclusions that Dr. Cottle had, infants in a children's institution in Evanston; purely intestinal infections, and in most instances B. coli found in the mastoid at autopsy. I did not feel that any of these cases were affected by operation. The epidemic was controlled by typhoid technique, and that class, in spite of the pathological findings, could not be helped by operation.

In another series I operated late and got no bad results, but felt that if they had been operated on earlier the results would have been somewhat different. I do not share the enthusiasm for almost wholesale operations in these children with these symptoms. I think Dr. Cottle is to be congratulated on his careful work, and the attempt to evaluate this technique for what it is worth.

Dr. George Woodruff, Joliet: I have just taken care of two four months old babies who presented this symptom, who were under the care of a pediatrician also, and I think only his prompt and energetic treatment saved the second baby. They were twins, and the parents had just moved from California. I opened the first baby's eardrum the first evening I was called, and the child did pretty well. Three days later the other was sick; when I was called another pediatrician had seen the baby and opened the ear. The child was very much dehydrated. I cleaned out the ears and in so doing found a paracentesis had been done, but was blocked up by dried up secretion. I feel such cases are typical of this syndrome.

Dr. C. Hopkins Long, Chicago: The only statement I wish to make on this paper is to emphasize the importance of early mastoid operation.

Dr. Willard Brode, Chicago: With regard to this question of perforations, I have had a number of these infants with the symptoms just quoted, and I find the essential thing is proper ventilation in the nose by way of using combinations of ephedrin sulphate 2% and 37 equal parts: dropping five or six drops in each nostril three or four times a day, I also use two or three drops of the same combination in the ear canals after removing the secretions that may be serving as an obstruction to drainage and ventilation.

This precedure opens up the infected areas and sterilizes them and thus prevents the middle ear from becoming reinfected. In my opinion thorough drainage and non-irritating germicidal remedies will accomplish more than any other plan of treatment, and ward off a complicating mastoiditis.

Dr. M. H. Cottle, Chicago (closing): It has been interesting that in a survey I made of about twenty-five or thirty pediatricions in Chicago, very few had had these gastro-intestinal cases in their private practice die. However, as handling children producing reinfection, I think we can eliminate that, because so many children become ill and die within forty-eight hours. There are many etiologic features to be considered. Many children have a tendency to vomit from birth on, and chronic vomiting at six or seven weeks leads one to consider pyloric stenosis or spasm. We at first thought the creamy discharge was pus coming through the drum membrane, but the microscope revealed epithelial debris. This moisture has been seen where there is normal eardrum and two or three days later the eardrum presents a pathological appearance. In one case which presented a sagging of the posterior portion of the drum membrane, the pediatrician asked me to do an operation on the right mastoid, and we found in this seven months child an enormous necrotic mastoid with exposed dura. We operated on the left mastoid which showed almost normal drum membrane. There was an extensive destruction of the mastoid region.

METHYL ALCOHOL POISONING*

(A Clinical and Pathological Study of 11 Fatal Cases)

E. C. BURHANS, B.S., M.D., M.S.

PEORIA, ILLINOIS

Prohibition has painted many lurid scenes upon the Canopy of Time. Legislative enactment changed men's rights but not their appe-

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tites. In this region illicit liquor flowed freely. The grip of the Law was tightened. Demand exceeded supply. Every source of intoxicating liquor was tapped. A drum of methyl alcohol disappeared. Scores of drinkers became sick and blind. Then the Grim Reaper took his toll and eleven husky men fell before his onslaught in this city in four days, and many others in the outlying villages and hamlets.

Methyl alcohol is produced by destructive distillation of hard wood or peat. The crude product is refined producing a colorless, mobile liquid having a vinous odor and a burning taste. The refined product is used as a denaturant. Radiator alcohol until recently contained ten per cent. methyl alcohol. This has been reduced to two per cent. because there were so many deaths following the use of the ten per cent. product as a beverage. Some people have a tolerance to methyl alcohol. Benetal[1] reports the case of a man who drank one pint of the ten per cent. mixture daily without any ill effects. Usually methyl alcohol if taken in large quantities results in death or in permanent blindness. In smaller repeated quantities it exerts an accumulative effect eventually leading to death or blindness. Small repeated doses of ethyl alcohol give no such effect because the alcohol is completely oxidized to carbonic acid and water. Oxidation of methyl alcohol results in the formation of still more poisonous products, formic acid and formaldehyde. The action of methyl alcohol on the living organism is due to the formation of these incomplete oxidation products.

Clinically large doses may have no serious effect for twenty-four to forty-eight hours. One of the cases under discussion suffered his first symptoms twelve hours after a drinking bout. He died before the next twelve hours had passed. A companion attended the first man's autopsy and spoke of his own good health at that time. Twenty-four hours later he laid on the autopsy table. Another companion recovered.

Briefly the symptoms and signs that were evidenced by the poison cases were:

1. Weakness. A feeling of general lassitude and loss of strength.

2. Headache.

3. Dimmed vision progressing to blindness. These eye changes are always present in some degree.

4. Abdominal pain and vomiting—the vomiting is persistent. Bloody mucus and shreds may be expelled.

5. Dyspnea and cyanosis. There is a severe acidosis. The respirations are slower and deeper than normal. The cyanosis is very marked, the individual becoming almost indigo blue.

6. Convulsions and coma. Barbash[2] reports a case in which there was severe meningeal irritation. An arachacentesis relieved the intracranial pressure and the meningeal irritation subsided. Two of our cases were treated with spinal puncture. One showed some increased intraspinal pressure. Both died.

The coma is somewhat delayed when compared to that of ethyl alcohol but continues for a longer period of time.

7. Death. From cardiac paralysis in our cases. Other authors report deaths due to respiratory paralysis.

8. Laboratory Examination:

Urine: In the acute cases there is a severe acidosis giving an increase in the amount of titratable organic acids, especially lactic and formic. In the chronic cases there is a marked albuminuria and the presence of granular, cellular and hyaline casts in large numbers.

Blood: In the acute cases there are no characteristic blood changes. In the chronic cases there is a marked anemia.

The autopsy findings were of interest. Norris[3] states that most cases when autopsied are negative except for a general visceral congestion. Our findings were so consistent in these eleven cases that we are prepared to state that wood alcohol poisoning does produce characteristic changes in addition to a general visceral congestion.

External examination revealed two types of bodies, the flaccid of which there were nine—and the spastic of which there were two. The former evidenced a normal amount of rigor mortis. The cyanosis was marked, the color being almost an indigo blue. The spastic type were abnormally rigid. The bodies were hyperextended, the arms flexed at the elbows, the thighs flexed on the abdomen and the legs on the thighs. The bladder and rectum had emptied. The skin was a mottled pink as in cyanide poisoning.

Only the brain showed any gross pathological change. There was an increased amount of cerebrospinal fluid and a mild degree of edema

of the brain. The optic nerves all showed edema and those of the individual who had been sick for four days had undergone cloudy swelling and marked degeneration. No eyes were removed for examination. In experimental animals dying of methanol poisoning there is always a degeneration of the retinal ganglion cells as well as degeneration of the optic nerve.

Gross examination of the heart and lungs were characterized in the spastic cases by a contraction of the heart until it was one-half the normal size. The lungs were completely filled with air, the individual dying at the end of an inspiratory breath. In the flaccid cases the heart, particularly the right side, was dilated. The lungs were congested and edematous, the dependent portions being full of fluid. When the abdomens were opened no free fluid was found. In the spastic type extreme contracture of the muscle of the stomach and intestine had occurred reducing the lumen of these organs to a minimum and expelling their contents. Strassman[4] autopsied one case years ago with similar intestinal contractures. In the flaccid type the intestines were in a state of muscular relaxation and were full of their normal content.

The mucosa of the esophagus and stomach showed varying degrees of pathology. The mucosa of the stomach of the individual who died twelve hours after drinking the methyl alcohol was only mildly congested. In one individual who had been sick three days the esophageal mucosa and mucosa of the stomach at the esophageal opening and in the prepyloric area was ulcerated and eroded. The characteristic change in the other cases was a hemorrhagic gastritis of a mild degree.

Every liver was congested. Microscopically there was a degeneration of the liver cells. In the individual who lived four days there was an acute yellow atrophy.

The pancreas in every case was the site of a hemorrhagic pancreatitis. The most profound pancreatitis occurred in the individual who died in the first twelve hours. His pancreas was three times the size of the normal. It was swollen, red, edematous and filled with multiple hemorrhagic areas.

The kidneys all showed a distinct congestion. In the individual who lived four days, there was a cloudy swelling and degeneration of the glomeruli and tubules. All the kidneys evidenced a degeneration to a lesser degree. The kidney pathology accounts for the albuminuria and casts found in the prolonged cases of alcohol poisoning.

Characteristic of methyl alcohol poisoning are the following changes:

1. Degeneration of the retinal cells and optic nerve.
2. Hemorrhagic pancreatitis.
3. Degeneration of the liver.
4. Degeneration of the kidneys.
5. General visceral congestion.

Treatment is supportive and eliminative. The acidosis is combated by large intravenous infusions of 5 per cent. sodium bicarbonate solution. Stomach lavage is imperative, and must continue three or four days. Bongers recovered three times as much methyl alcohol in the gastric lavages of the second and third day, as he was able to obtain the first day. This indicates that methyl alcohol is excreted into the intestinal tract, and long gastric lavages are necessary. An inlying duodenal tube of the Ewald type or a nasal tube is advantageous. The individual may drink fluid freely and the inlying tube allows for a continuous drainage, making the stomach lavage an automatic procedure. Hot packs are used to remove the burden from the kidneys and promote elimination. Heat should be applied to the body between hot packs. Cardiac stimulants such as digifolin and caffeine are given hypodermically. Morphin is indicated for pain. Meningeal irritation is to be relieved by arachacentesis.

The prognosis must always be a guarded one. Energetic, persistent, and intelligent treatment will be rewarded by a fair percentage of recoveries. In dealing with so fatal a poison that is the best to which even the most ambitious can aspire.

In summation there are four points to be observed:

1. Methyl alcohol when taken in poisonous quantities produces a definite clinical picture.
2. The treatment is supportive and eliminative.
3. The prognosis must be guarded.

4. The autopsy findings are characteristic.

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THE RELATION OF THE EAR TO THE NASAL ACCESSORY SINUSES*

NOAH SCHOOLMAN, M. D.,
CHICAGO.

The eye, ear, nose and throat have been thrown together, evidently because it was thought that quite a few odds and ends were needed to furnish a man's time. The eye, however, has long attained its independence, so that at present there are few, if any, outstanding ophthalmologists who do not devote themselves exclusively to the eye. The throat also aspires, and is on its way, to achieve independence—what with laryngoscopy, bronchoscopy and esophagoscopy with its multitudinous equipment which surrounds it.

There still remains the nose and ear to keep company together. and our present theme is to show the intimate relationship that exists between them. Let us consider the significant anatomical analogies between the nose and the ear:

1. Both consist of osseous structures lined with a mucous membrane.

2. Both communicate with the air on the one hand and on the other with the brain—the ear by way of the meatus internus and the nose by way of the cribriform plate.

3. Both communicate with the naso-pharynx.

4. Both consist of a main chamber—the tympanic cavity in the one and the nasal chamber in the other which communicate with a system of adjunct spaces between the inner and outer tables of the bones of the skull, the mastoid spaces, and the spaces of the nasal accessory sinuses.

These anatomical analogies are basic, fundamental and far-reaching in their clinical implications. The physiological analogies are not so significant. Both systems contain an end organ —the labyrinth in the rear and the olfactory organ in the nose. The labyrinth is the one important factor in the clinical determination of the ear. The olfactory organ does not hold the same position in the clinical values of the nose. Rather the secondary function of the nose, that of respiration, assumes the leading role.

When we come to the consideration of pathology, we again strike firm, common ground. The aural and nasal systems are both characterized by the pathology of a mucous membrane resting upon an osseous base where the phenomena of catarrhal inflammation merge and over-lap that of osteomyelitis. Both depend for their normal integrity upon the free and unobstructed communication with the air. Both share in the dangers of intra-cranical complications along more or less definite routes of invasion. In both, the adjunct spaces, the mastoid and the sinuses, are the regions of their unfolding pathological story.

Now, as to etiology, we see that both systems are prone to infection, because both open upon the naso-pharynx and are thus made joint heirs to all the affections of the upper respiratory tract. including tonsillitis, the exanthemata, influenza and other infectious diseases.

In symptomatology and diagnosis, the two systems do not display important analogies. There is nothing in the nose which is analogous to the labyrinth of the ear. Besides, there is the unique scroll of the tympanic membrane upon which is written the great story of the ear for the otologist to read, much as the ophthalmologist reads the fundus of the eye—its position, inclination, texture, lustre, consistency, transparency. light reflex, injection, pulsation, bulging, thickening, adhesions and atrophies. Then there is the eloquent story of the perforations—central, marginal, single, multiple and attic. Then there is the story of the ossicles—the retractions, ankylosis and necrosis. Then there is the evidence written on the very walls of the tympanic cavity—six of them—for the discerning otologist to consider. There is also the unique story of cholesteatoma so eloquent to the otologist. Then there is also the boding threat

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of contiguous structures, the lateral sinus and the facial nerve.

Last, but not least, there is the great chapter of the functional tests. The rhinologist will have a long way to go before he will catch up with his brother otologist in the systematized reading of the nose and its sinuses. The rhinologist, however, retains a strategic position, as we will soon see.

Dismissing the consideration of the course, termination and indications as unimportant to the present theme, and taking up the subject of treatment, we at last arrive at the gist of our subject, namely, the important role that the treatment of the nose and sinuses plays in the treatment of the diseases of the ear. In the close relation of the ear and the nose, it is the nose that plays the more important part. We are seldom called upon to treat the ear for the sake of the nose, but we are constantly called upon to treat the nose, its sinuses, and the naso-pharynx, for the sake of the ear, both actively and prophylactically. The ear, in a way, is an innocent victim of the nose and naso-pharynx, including the tonsils, and much of the success of treatment of the former depends upon attention to the latter. While this is nothing new, it cannot be over-emphasized. We often have cases of bilateral otitis media, particularly in children. When both ear-drums are incised we note that one ear pursues a mild course toward recovery, while the other ear follows a severe course toward surgical mastoiditis. Often diligent search in the nasal sinuses and naso-pharynx, including the tonsils, will disclose the reason. And timely treatment of an infected antrum, for instance, might have prevented many mastoid operations. Again, we often have cases of mastoid operation which do not progress favorably. Here also a sinus infection may be the cause. The troublesome recurrence of mastoid infection, after mastoid operation, in children, must be attributable to untreated upper respiratory and sinus conditions.

Resume: 1. Upper respiratory conditions, including the sinuses, tonsils, and for the sake of completeness, let us also mention the teeth, are responsible for most ear infections.

2. They are responsible for many of the ear infections which run a severe course and show no inclination to respond to treatment.

3. They are responsible for many ear infections necessitating mastoid operation.

4. They are responsible for many unsuccessful mastoid operations.

5. They are responsible for many recurrences of mastoid infection after mastoidectomy, particularly in children.

6. They are responsible for many cases of chronic otorrhea and. hence, responsible for much of the trouble that follows in its train.

7. They are responsible for much of the impaired hearing in children.

Conclusion: Every ear examination should also include as thorough an examination of the nose, sinuses, naso-pharynx, tonsils and teeth, as if these conditions were the primary complaint. Also, in the treatment of the ear, those other conditions should be made the objects of as thorough treatment as if they were the primary cause of the complaint.

310 So. Michigan Ave.

DISCUSSION

Dr. Frank W. Brodrick, Sterling: I do not believe that a man is doing good otological work unless he does some rhinological work as well. More complete examination of the nose in connection with the ear will eliminate a great many of the sequelae of the original condition.

Dr. O. J. Nothenberg, Chicago: I have seen a great many ear affections associated with rhinological pathology. I believe there is a possibility for the ear disease to continue until a concurrent sinus infection is cleared up. In other words there may be a constant reinfection through the Eustachian tube. Sinus disease will lower the vitality of the patient and where we eliminate it it will help to conquer the other condition. They should be treated at the same time, and to treat one and not the other does not give the best results.

Dr. Noah Schoolman, Chicago (closing): We might also include the eye. We are seldom called upon to treat the eyes for the sake of the sinuses but we are often called upon to treat the sinuses for the sake of the eyes. I can cite a number of cases referred to me from the Eye Department of the Illinois Eye and Ear Infirmary to find foci in the sinuses to combat eye manifestations, so that the ophthalmologist as well as the rhinologist is well aware of their close connection.

ACUTE EPIDIDYMITIS IN THE LIGHT OF RECENT EXPERIMENTAL WORK

DAVIS H. PARDOLL, M. D.
CHICAGO

Acute epididymitis, or inflammation of the epididymis, is undoubtedly the most common form of pathology encountered in the scrotum. Although it usually is associated with manifest and easily diagnosed gonorrhea, cases not infrequently occur in which the specific infection is denied, and the signs of which may be most difficult to discover.

The most frequent etiologic factor in acute epididymitis is the Gonococcus of Neisser, although non-venereal organisms such as the Staphylococcus aureus and the Streptococcus viridans are often the exciting bacteria. Occasionally the Bacillus coli may be the invading organism, particularly so in the old and debilitated. The Koch bacillus also has been isolated from acutely inflamed epididymes, and multiple miliary tubercles were demonstrable studding the organ. Acute epididymitis is most frequently met with in young adults, the most common age ranging from 20-30. The earliest case in our experience was in an infant of two, following a herniotomy; the right epididymis was intensely engorged, gangrenous and a plastic, fibrinous exudate coated it. The organism recovered was Staphylococcus aureus. The oldest case occurred in an old prostatic of 80, who had a long-standing cystitis, and who showed B. Coli and Staphylococcus aureus on culture from the epididymis. Trauma occasionally plays a part in the production of acute epididymitis. The latter is rarely produced through the injury itself; however, an old latent infection, or a coexisting one, may be stirred up through the accident.

The symptoms vary in degree; they may be mild, with slight pain and just obvious enlargement of the epididymis, causing very little or no discomfort; or most severe, with great enlargements; exquisite pain and tenderness and often considerable redness and edema of the scrotum. There is present, swelling of the epididymis which is painful, tender to touch and which stands out prominently from the back of the testicle which is itself often inflamed. In its severe form, it is usually associated with acute hydrocele of the tunica vaginalis, which may hide the enlargement of the epididymis from the palpating finger. In these cases, the acute tenderness behind and below gives us a strong clue as to the nature of the disease, apart from the associated urethritis if present. The cord is affected in a certain proportion of cases, being thickened and possibly painful, particularly at the internal ring. the pain in the testicle radiating up into the abdomen. The patient assumes a characteristic gait; he bends over as he stands and walks with his legs straddling in order to relax the spermatic cord and relieve it from the weight of the enlarged and tender scrotum.

The purulent discharge, if gonorrhea is associated, usually ceases at once, and remains absent until the inflammation in the epididymis is better and then begins again, but scarcely ever as profusely as before.

On examining the scrotal contents, the epididymis is found enlarged, hard and tender and occasionally the testis may be hard to outline on account of the effusion of serum into the sac of the tunica vaginalis. The spermatic cord is thickened and very tender. Rectal examination usually reveals an enlarged prostate, and a tender distented vesicle on the affected side. The inflammatory products usually disappear by resolution, and rarely suppurate. The acute symptoms abating in approximately six days.

The usual path of infection is not by metastates through the blood vessels or lymph channels, as is commonly found in the non-venereal type, but is caused by the passage of the invading organism, either ascending from the urethra, or descending from the kidney, through the posterior urethra to the epididymis by way of the vasa deferentia and seminal vesicles.

The body of the testicle proper is not involved, as a rule, and the inflammation is limited to the epididymis, but the testicle is often apparently enlarged on account of its being surrounded by the swollen and inflamed epididymis. Another element which causes the testicle to appear larger than normal is the effusion of serum which takes place into the sac of the tunica vaginalis and

*From the Genito-Urinary Dept. of the Michael Reese Dispensary. Read before the Staff of the Post Graduate Hospital and Medical School.

causes hydrocele. This effusion may in time be absorbed, or remain permanently and even increase.

If both epididymes have been affected. a condition of permanent sterility may be left; in fact, the most frequent cause of sterility in the male is bilateral epididymitis. The function of the testicle may be destroyed in any of the following ways:

1. The most common is the formation of an inflammatory exudate in the head of the epididymis, which is not absorbed, but remains and forms a plug blocking the efferent duct.

2. An atrophy of the glandular structure of the testicle may occur, probably as a result of inflammatory products in its substance.

3. In very exceptional cases the body of the testicle suppurates and sloughs out, and in this way the organ itself may be entirely destroyed.

It has recently been demonstrated experimentally that the inflammation of the epididymis in these acute infections is not within the tubular structure of the organ, but in the interstitial and peaivascular tissues. Organisms injected into the vas deferens extend along the lumen of the vas till the tail of the epididymis is reached and then extravasate, penetrating the tubular epithelium and setting up a peritubular and interstitial inflammation in the tail; the infection then extends upward involving the rest of the epididymis by interstitial extension.

Chemicals, on the other hand, stay within the lumen of the tubules of the tail and do not extend extratubular nor travel beyond this boundary. This point is of value in outlining a course of rational treatment.

The diagnosis of acute epididymitis is generally easy because of the symptoms and physical signs which are so apparent. Also because of its acuteness and association with gonorrhea.

In its quieter forms, however. tuberculosis of the genital organs must be thought of. This is particularly the case as examination per rectum not infrequently discloses prostatic and vesicular disease in tubercle. Yet there may be a urethal discharge present. It is distinguished by the smoothness of the epididymis, which contrasts with the irregularity of the tubercular swelling. Tuberculous disease of the epididymis occasionally follows an acute gonorrheal epididymitis, and is due to the lighting up of a focus of tuberculous material which has lain unsuspected and dormant in the epididymis.

Gonorrheal epididymitis very rarely results in abscess formation, and then usually breaks at one point only after an acute attack. On the other hand, tubercular disease tends to form multiple fistulae, after a more chronic course, with involvement of the vas and a tendency to abscess formation. In the pus of an epididymitis which has broken through the surface, microscopical examination may reveal the exciting organism. Also, one must bear in mind that tubercular disease here is often associated with similar disease elsewhere.

Syphilitis epididymitis is comparatively rare apart from that of the testicle but may occur as an early manifestation, i. e., within a few months of the original infection. The upper part of the epididymis is affected, one or more painless elastic swellings occurring there.

It is diagnosed from recovering gonorrheal or non-venereal epididymitis by its association with syphilis rather than with gonorrhea or non-specific infection, and by the absence of any history of an acute inflammatory process or of other signs of inflammation in the epididymis, such as nodular enlargement of the globus minor. In the diagnosis of syphilitic affection of the epididymis a positive Wassermann reaction would be evidence for the syphilitic nature of the lesion, but naturally not conclusive for the co-existence of double infection is not uncommon in the cases we have seen. The positive reaction might be evidence of a luetic infection elsewhere in the body. A negative result, however, would support a diagnosis of some non-luetic condition.

Inflammation of the epididymis due to other bacteria such as B. coli, Staphylococcus, Streptococcus, and others are not quite as rare as formerly supposed. Theodore Baker states that non-venereal infection constitutes about twenty per cent. of all genital infections. We believe this percentage to be rather high. nevertheless, the fact remains that a large percentage of acutely inflamed epididymes are non-venereal and should not be overlooked. It may be impossible to diagnose gonorrheal epididymitis on the local signs alone. When the epididymis is inflamed, one naturally thinks of gonorrhea, but

cases do occur in which gonorrhea or even exposure to infection is stoutly denied; and, there may be no urethral discharge, or if it does exist, does not contain Gonococci. The diagnosis then depends on the presence of obvious signs of other bacterial infection of the urinary system, such as B. coli pyelitis with cystitis and bacilluria, intestinal infection with metastasis, skin infections with Staphylococcus aureus, abscessed teeth or infected tonsils with Streptococcus viridans, and many other foci of infection with their associated bacterial emboli. which select the epididymis, particularly after it has been previously undermined by the Gonococcus.

Traumatic inflammation of the testicle and epididymis must be distinguished by the absence of either an associated gonococcal urethritis or non-venereal inflammation due to a focus of infection, and the history of an injury to the affected part. It is not safe, however, to rely on the history of trauma alone, since the latter may precipitate a gonoccocal epididymitis in a patient who is already suffering from a specific urethritis. Traumatic epididymitis does occur, however, with the resultant pathological changes here of congestion, edema, cell migration, etc., as elsewhere, following tissue injury.

Mumps may be complicated by an acute orchitis and more rarely by epididymitis. There may also be a urethral discharge.

Influenzal infections have been the cause of acute epididymitis and must be diagnosed.

Development cysts and spermatocele would be excluded by the absence of a gonorrheal history or signs of acute inflammatory changes and if necessary aspiration.

Malignant disease of the testicle with secondary involvement of the epididymis requires some deliberation at times in order to differentiate it from acute epididymitis. The latter is diagnosed in its acute form by the greater rapidity of its progress and retrogression. If the patient happens to apply for advice when the epididymis is quiescent and chronically enlarged, he can generally give a history of an acute attack which may coincide with one of gonorrhea or some non-venereal infection. In regard to progress, chronic gonorrheal epididymitis differs from malignant disease in its stagnation or tendency to retrogression while the latter progressively advances. Moreover, acute epididymitis is mainly confined to the epididymis.

In connection with acute epididymitis, it is well to remember that at the onset its symptoms may closely resemble that of commencing appendicitis. It is therefore very essential to rule out right sided epididymitis, particularly in right lower abdominal pain. Vomiting, acute pain in the right iliac fossa, increase of pulse rate and rise in temperature are often present in right sided acute epididymitis. The border of the rectus muscle is not, however, so rigid in epididymitis; there is often acute tenderness of the epididymis and of the cord, especially at the internal abdominal ring; and the patient does not look so ill as an appendix case requiring immediate operation, and the pulse does not increase progressively in rate. Rectal examination may facilitate the diagnosis, as in epididymitis, a tender enlarged vesicle is often felt on the affected side. Proper treatment immediately instituted usually results in subsidence of the appendix-like symptoms in a few hours. Cases of epididymitis do occur, however, which imitate appendicitis so closely that the diagnosis may remain in doubt during some hours of careful watching, and is only rendered after the symptoms of acute epididymitis manifest themselves clearly, and expectant conservatism is justly rewarded.

In closing, we might mention two conditions which must be differentiated from acute epididymitis because of their close resemblance clinically; torsion of the spermatic cord and acute orchitis. The first requires immediate operation; the latter responds well to the treatment indicated for acute epididymitis.

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55 E. Washington St.

4707 Broadway.

ACUTE OSTEOMYELITIS OF THE SPINE*

CHARLES L. PATTON, M. D., F. A. C. S.,
SPRINGFIELD, ILL.

Acute pyogenic osteomyelitis is essentially a disease of the growing period and has a tendency to attack the long bones, although the short flat bones are not infrequently involved. The statistics of Frohner and Haag[1] show that in 545 cases of this disease, there was an involvement of 661 long bones and 51 short bones, the vertebrae being involved in only one instance. Hahn[2] estimates the proportion of involvement of the short, flat bones to that of the long bones as one to twelve and of these the vertebrae are least often the seat of this disease.

The occurrence of osteomyelitis of the vertebra, however, is probably more common than these statistics would indicate. The real nature of the disease is often not recognized owing to early visceral and cord involvement by the inflammatory process. This often leads to erroneous diagnoses, such as myelitis, retropharyngeal, deep cervical, mediastinal, paranephritic, retroperitoneal or pelvic abscess, empyema or suppurative myositis. The sudden onset of the disease with the attendant profound toxemia, often leading to delirium, stupor and early death, frequently leads to the diagnosis of some general infection as typhoid, meningitis or pneumonia and the underlying bone lesion remains unrecognized.

Early reports of this disease were made by Valleix (1839),[3] and Stanley (1849),[4] but no comprehensive article appeared in medical literature until the publication of Lannelongue's[5] monograph in 1879. Since that time there has developed a considerable French and German literature upon the subject. The only English publications have been by Makins and Abbott[6] in 1896 and Ramsey Hunt[7] in 1904. Among the contributions to this subject, deserving special mention. are those of Joel (1893),[8] Hahn (1895 and 1900), Grisel (1903),[9] Donati (1906),[10] Volkmann (1914-1915),[11] Mathieu (1924),[12] and Mayet and Lageneste (1924).[13] Since the preparation of this paper an excellent article upon this subject has been published by Wilensky.[14]

Volkmann's article is most exhaustive and is based upon eighty-seven cases, four of which had not been previously reported.

The following case came under my observation in July, 1927:

T. D., 35 years old, Italian, married and a coal miner. He stated that he had always been well and strong and had worked regularly as a coal miner during the previous winter and spring. He had never had any serious illnesses and, except for minor accidents, had not consulted a physician on account of his health.

On July 4, 1927, while lifting a sack of cement, he slipped and the full weight of the cement came on his right arm, giving him a severe jerk. He did not fall. He felt pain in his back, between his shoulder blades, but was able to continue at work the rest of the day and for five or six days subsequently. On July 11, he complained of severe pain in the back, between the shoulders, and became "sick all over." He consulted his physician who found him complaining of severe pain between the shoulders, radiating around both sides of the chest to the sternum. He had fever, general malaise and nausea. He was sent to St. John's hospital, July 17.

On entrance his temperature was 102, pulse 60 and respirations 30. He walked into the hospital but his back pain became so severe in the afternoon that it required morphin for relief. The pain was dull and aching, increased by exertion, most marked in the upper dorsal region and worse at night than during the day. In addition to the dull ache, he complained of lancinating pains radiating into both axillae and into the front of the chest.

Examination showed a middle aged, well built, Italian with good panniculus and firm musculature, who looked acutely ill. His face was flushed. He lay quietly in dorsal decubitus and did not turn in bed on account of severe back pain. His pupils were equal and reacted to light and accommodation. There was no evidence of cranial nerve involvement. The fundi showed nothing abnormal. His hearing was normal and neither ear drum showed evidence of inflammation. His neck was rigid and attempted movement caused pain in the upper dorsal region. The mouth, throat and teeth were negative. There was no abnormality in the chest, lungs, heart or blood pressure. The abdomen showed moderate distension and slight general tenderness without rigidity. The spleen and liver were not felt. He showed evidence of tenderness along the entire spine, most marked over the upper dorsal region. His reflexes were normal. He had bladder and rectal control and no abnormality of sensation. Straight leg raising was normal. The urine was negative. The blood showed 3,700,000 reds and 12,400 leucocytes with 79% polynuclears. Widal reaction was negative. A spinal puncture was made and showed clear fluid under slightly increased pressure with fifteen cells, positive globulin, negative Kahn and colloid gold 1111122222. For the next few days the temperature ran a more or less irregular course, varying from 99.6 to 103 and leucocytes from 12,000 to 18,000. His presenting symp-

*Read before Section on Surgery, Illinois State Medical Society, Peoria, May 21, 1929.

tom was pain in the upper dorsal region. On July 24, he showed extreme tenderness to percussion over the first three dorsal vertebrae. There was no sensory disturbance and no interference with the bladder or rectum but ankle clonus was present on both sides and there was a definite left Babinski. X-ray of the spine was made and showed an area of absorption in the bodies of the second and third dorsal vertebrae on the right side. On July 26 he showed slight numbness in both feet and was having difficulty in emptying his bladder. Spinal puncture showed a clear yellow fluid under slightly increased pressure, twenty-three cells and definite slight clot on standing. A diagnosis of osteomyelitis of the bodies of the second and third dorsal vertebrae was made.

On July 26, under nitrous oxide anaesthesia, an incision was made from the first to the fourth dorsal spines. The head of the third rib was removed on the right side. Pus was encountered in separating the tissues and necrosis of the bodies of the second and third vertebrae found. Some necrotic bone was removed with a curette and drainage introduced to the bodies of these vertebrae. Culture showed Staphylococcus albus.

Following operation he was distinctly more comfortable and the temperature dropped to normal with afternoon rise to 100.6. On July 30 he had a distinct chill, slight cough and blood streaked sputum but no evidence of consolidation in the chest. His pain became much less but he gradually developed a complete paralysis of the legs, incontinence of feces, urine retention and complete anesthesia from the level of the nipples down. His temperature continued to run an irregular course. A severe pyelitis developed and on Aug. 12 a bed sore appeared on the sacrum. He became very ill and showed progressive loss of weight and strength until the latter part of August when his appetite improved, his pain became less and his temperature became lower. The paralysis, anesthesia and loss of bladder and rectal control remained. Up to this time further operation had not been considered on account of his general condition and severe kidney infection. Feeling, however, that there was an abscess within the spinal canal, pressing on the cord, a laminectomy was done September 7, removing the spines and laminae of the second and third dorsal vertebrae. The transverse process of the third dorsal vertebra and the bodies of the second and third dorsal were found necrotic and organized exudate found on the dura. On September 11, he complained of burning sensation in both legs and feet. September 14 there were involuntary, painful contractions of both legs. The urine continued to show large amounts of pus and the temperature ran an irregular course varying from normal to 102. The pain and burning in the legs with involuntary contractions continued. On October 1 he had partial control of the bowels and was able to void urine. His temperature reached normal on October 2 and continued so throughout his stay in the hospital. On December he could voluntarily flex the second, third and fourth left toes and superficial and deep sensation of the legs was normal. He had complete control of his bladder and rectum. By December 29 he could flex and extend the right leg, right foot and right and left toes and make voluntary contractions of the muscles of both thighs. On April 1 he had increased markedly in weight, was free from pain and showed normal sensation. His legs were spastic but he could walk with assistance. He showed bilateral ankle clonus, bilateral Babinski and a tendency to cross his legs in walking. He was discharged from the hospital May 12, 1928, walking with the aid of crutches. He was last seen October 22, 1928, at which time he was walking with a spastic gait but with no tendency to cross his legs. He complained of no pain, had gained markedly in weight and felt well. He had normal bladder and rectal control and no loss of deep or superficial sensation. At night the legs had a tendency to draw up and cramp but he had no difficulty in straightening them out. He could walk without assistance but he used a cane on "long trips." Examination showed increased knee and ankle reflexes, bilateral ankle clonus and bilateral Babinski.

As in osteomyelitis in other locations, this disease is one of childhood and adolescence, although a few cases have been reported occurring in the fourth and fifth decades.

At birth each vertebra consists of three ununited cartilaginous portions; one for the body and one for each lamina and its processes. The laminae become united posteriorly during the first year and the neural arch is joined to the centrum about the third year. These primary centres continue to grow until the fifteenth year, when four secondary centres of ossification appear; one for each transverse process and two for each spinous process. A thin epiphyseal plate develops on the upper and under surface of the vertebral body at the twenty-first year. The vertebra is not completely formed until the thirieth year. Infection usually occurs before this time.

In fifty-nine cases reported by Volkmann, eighteen occurred during the first decade, thirty-one during the second, seven during the third, one during the fourth and two during the fifth.

The affection is much more frequently seen in males than females. In Volkmann's cases, seventy-two per cent. were in males.

Any portion of the spine may be involved. It is much more frequently seen in the lumbar and dorsal region, less frequently in the cervical region and least often in the sacrum.

Acute pyogenic osteomyelitis is a metastatic lesion. The primary portal of entry is a surface lesion such as furuncle, carbuncle, paronychia.

eczema, acne, carious teeth, infected tonsils, or lesions of the alimentary tract. It may also follow general infections such as puerperal sepsis, acute respiratory disease or any other lesion producing a bacteremia.

Trauma probably plays an important part as the exciting cause of this disease, producing a point of lowered resistance, allowing thrombosis to occur more readily and thus preparing the site for accumulation and multiplication of bacteria. Fatigue and exposure to wet and cold have been considered contributory causes. In many cases the etiologic factor cannot be determined.

The infecting organism, in thirty cases of Volkmann's series, proved to be Staphylococcus pyogenes aureus in twenty-four, Staphylococcus pyogenes albus in four and Micrococcus tetragenus in two.

Tuberculous osteomyelitis of the spine almost invariably attacks the vertebral body while in acute pyogenic osteomyelitis the processes and laminae are more frequently involved. Volkmann gives the percentage of involvement as fifty-eight per cent. for the arch and processes, thirty-four per cent. for the body and a combination of arch and body in seven per cent. The intervertebral discs are occasionally involved.

The clinical picture, complications and prognosis of this disease vary with the part of the vertebra involved. Osteomyelitis of the neural arch may give quite different local symptoms than those found in involvement of the vertebral body. In this type the spinous process or the transverse process may be involved alone or there may be a diffuse involvement of the entire posterior arch. Infection is soon followed by abscess formation, denudation of bone and occasionally the formation of sequestra. The actual involvement of the deeper bone tissues is usually small and the sequestra formed are rarely of large size. There is a marked tendency to rapid healing.

With abscess formation, pus finds its way out of the bone by various paths depending upon the primary location of the infective process in the vertebra and the portion of the spine involved.

With involvement of the posterior arch the tendency is to extend to the surface of the body although the path of extension may be to the spinal canal. The direction in which the suppuration spreads is determined by the anatomical condition of the region involved.

The general symptoms of this disease do not differ in any way from those of acute osteomyelitis in other bones. The initial picture is that of an acute general infection. It is ushered in by high temperature and often preceded by chill. The patient looks acutely ill and suffers from malaise and general aching. The infection is often so overwhelming that delirium, stupor and death rapidly take place. The disease is often unrecognized on account of a fatal termination before any localizing symptoms occur. In addition to the picture of a general infection there is from the onset severe pain over a wide area of the back with general tenderness of the back muscles. The patient lies in a position to relieve strain and moves carefully and with caution. Attempted movement provokes muscle rigidity and spasm. Often a neck rigidity and false Kernig are noted at this time leading to a dignosis of meningitis. After a period of a week to ten days, in addition to the symptoms of a general infection, local evidence of the disease becomes apparent. The general back tenderness becomes more localized to the vertebra involved and percussion tenderness over this area is pronounced and painful. With the extension of the inflammation to the nerve roots a different type of pain develops. In addition to the deep, boring, agonizing ache of osteomyelitis is added a radiating, lancinating pain referred to the anterior chest wall, abdomen or legs. With the progress of the disease abscess formation becomes evident and the local findings depend upon the location of the focus in the vertebra as well as the region of the spine involved. In disease of the posterior arch there is a tendency for the abscess to point posterior and evidence of edema, local tenderness, heat and swelling are apparent much earlier than in involvement of the transverse process or bodies. The direction in which the abcess points depends upon the anatomical arrangement of the parts involved. In involvement of the spines and lamina the tendency is to posterior pointing, although a deeper, dissecting phlegmon may occur or the abscess may involve the spinal canal. With involvement of the transverse processes a tendency to extension along the muscles, directed by the fascial planes, is noted. Involvement of the body shows a

greater tendency to perforation of the spinal canal, or to point anterior into the retropharyngeal, mediastinal or retroperitoneal spaces. The abscess may point at a site far removed from the original focus of the disease. Thus gluteal and psoas abscesses have been frequently noted.

X-ray in the early part of the disease is of very little value but after a period of a week to ten days may give valuable information as to the part involved.

Spinal puncture will aid in the differentiation from meningitis but it is not without danger.

Intraspinal involvement is evidenced by paresthesias, followed by various stages of motor palsies, anesthesias and involvement of bladder and rectum.

The treatment of this condition is essentially surgical and depends upon the location of the abscess. In those cases with posterior pointing, simple incision and drainage will, in the majority of cases, result in cure. In involvement of the transverse processes or bodies more extensive operation is imperative, the approach varying with the location of the abscess. When extension is into the canal resulting in extra dural abscess or in pressure from vertebral necrosis, a spinal decompression is indicated. When meningitis, myelitis or subdural involvement is present, surgery offers little hope for relief.

The prognosis depends upon the promptness with which diagnosis is made and surgical relief instituted. In involvement of the posterior arch, signs of localization appear early and drainage can be employed at an opportune time. While in anterior involvement, recognition of the true character of the disease is more difficult and wide spread involvement may occur before surgery is resorted to. "The statistics of Makins and Abbott show 71 per cent, those of Donati 48 per cent and Volkmann 41.8 per cent total mortality." (Steindler). "Mayet and de Lageneste estimate the mortality of osteomyelitis of the vertebrae for the lumbar spine a 76 per cent, for the dorsal as 60 per cent and for the cervical as 29 per cent." (Steindler).

In an article upon "An Unusual Case of Infection of the Spine," Leo Mayer[15] has compiled a complete bibliography.

Steindler has thoroughly reviewed the literature of this subject in his book, "Diseases and Deformities of the Spine and Thorax," recently published.

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DISCUSSION

Dr. W. Stuart Wood, Decatur: Osteomyelitis of the spine differs very little in the clinical picture from osteomyelitis elsewhere in the body, until it involves the cord, if it does. The reason it is not recognized as osteomyelitis elsewhere, is that it is rare in that location. In some cases you can get a history of trauma, in others you cannot, and it is a variable factor anyway. There may or may not be a focus of infection elsewhere in the body to guide us. If there is we are fortunate, but it often happens that there is not. It has been shown that in normal vertebrae there are bacteria which cause absolutely no symptoms or evidence of disease, and trauma may excite osteomyelitis without any evidence of infection or focus elsewhere in the body. It is not unusual for it to be associated with osteomyelitis of some of the long bones, very often the femur, and especially in chronic cases of osteomyelitis of the femur you will sometimes find a focus in the spine. The direction in which an abscess points is not a very valuable guiding factor. I had one case in which the abscess pointed down the outside of the thigh making it look like osteomyelitis of the femur, but it really was in the spine.

As to spinal puncture, while it may be of value in ruling out myelitis or primary cord disease, it is in fact a very dangerous procedure, especially if the symptoms point to lumbar involvement, as you are very apt to introduce the bacteria into the spinal canal and thereby set up a condition that you might have avoided by refraining from spinal puncture until you had ruled out the possibility of osteomyelitis in that region. Of

course if the involvement is in the upper dorsal or cervical region the lumbar puncture does not possess the same risk.

The involvement, as Dr. Patton said, may be of the spines, the laminae, or the body of the vertebra and the spine shows the greatest percentage of cases, which is fortunate so far as the outcome of the disease is concerned because it is easier to operate on the spine than on the body of the vertebrae.

The results obtained by Orr of Nebraska in the treatment of osteomyelitis have been good. I have had marked success with his method. The technique consists merely of a wide incision to allow for adequate drainage of the abscess, leaving the incision wide open, packing with vaseline gauze and putting the part at rest by application of a plaster cast, then let it alone. I have not had an opportunity to try it out on osteomyelitis of the spine, but I see no reason why it would not be as effective as in osteomyelitis of the long bones. The main thing is adequate drainage. I think that technique in all cases of osteomyelitis would make for an increase in the number of recoveries, although it is not a hopeful disease at best.

Dr. George L. Apfelbach, Chicago: I would like to mention a case I had,—a man who was sent to my office for diagnosis of a suspected goiter. Basal metabolism showed no hyperthyroidism or other symptoms. The patient came back in three weeks with a rapid pulse and there were evidences of cord changes. X-ray and other examinations showed that he probably had a cord tumor. He died in a stupor. The x-ray showed nothing. Autopsy showed an abscess in the body of the ninth dorsal vertebra which had perforated producing a localized abscess of the cord. I quote this case as being applicable to the discussion, since this case shows that all forms of osteomyelitis can occur in the vertebra, even a Brodies' abscess.

NECESSARY PELVIC AND ABDOMINAL OPERATIONS DURING PREGNANCY* (Illustrative Cases.)

J. P. GREENHILL, B. S., M. D., F. A. C. S.,

Attending Obstetrician, the Chicago Lying-in Hospital and Dispensary; Attending Gynecologist Cook County Hospital; Associate in Obstetrics, Northwestern University Medical School.

CHICAGO

Until recent years operations on the internal and external genital organs were rarely performed during pregnancy. Even operations on nongenital organs during gestation were unusual performances. Nowadays, however, we do not have the same hesitancy concerning these operations, because with improved technic, better asepsis and proper post operative treatment, the danger to life is practically no greater than for operations on non-pregnant individuals. When operations are performed in regions other than the genital tract, there is almost no risk of interrupting pregnancy but when the operations are done on the internal genital organs during pregnancy there is definite but not very great danger of abortion or miscarriage. The earlier in pregnancy operations are performed on the internal genitalia the greater the likelihood of interrupting the gestation. Operations on the external genital organs except the cervix have practically no effect on pregnancy.

Discussion of Cases: I have selected the case histories of a few patients on whom I operated during pregnancy and shall discuss each one separately.

Case 1. On October 14, 1922, Mrs. M. F., aged 26, came to see me because of inability to have sexual intercourse. She had been married four and a half years and while numerous attempts had been made, coitus could not successfully be consummated. Of importance in the patient's past history was the fact that she had had diphtheria twice. At the age of fourteen she experienced cramp-like pains in the lower abdomen every month but no blood escaped from the vagina. A physician was consulted and he inserted a finger into the vagina and broke something. After this, bleeding occurred regularly every month and was accompanied by little discomfort.

The patient said she had not menstruated for three months but did not remember the exact date of the last period. The breasts and abdomen had grown larger and there was increased salivation.

The general examination was negative except for a thyroidectomy scar. Pelvic examination revealed the following: The labia majora and minora were normal and there was abundant pubic hair. The hymen was sensitive and the orifice admitted one finger for a distance of 2 cm., but beyond this there was a tense stenotic ring of scar tissue. This ring could not be penetrated by the finger. Rectal examination revealed not only this circular band but also similar ones higher up. The cervix, which was high up and difficult to outline, seemed to be buried in adhesions above the vault rather than in the vault of the vagina. The uterus was enlarged to the size of a ten weeks' pregnancy, it was soft, anteflexed, and freely movable. The adnexa presented no abnormalities.

The patient and her husband at first refused to believe that a pregnancy existed, but despite this, wanted something done so that coitus could be made possible. Accordingly, on October 16, the following was done: The hymenal ring was first excised. Then the first strong band of scar tissue was incised, some of the scar tissue was removed and the cut portions stretched considerably with the fingers. Access was now obtained to the upper scars, of which there were many and these were very irregular. These scars were likewise in-

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cised in a few places and forcibly stretched. After this was done the vagina admitted three fingers very readily. The vault was exposed in the expectation of seeing the cervix. It was with great difficulty that the external os, which measured about 2 mm., was found and it was flush with the vaginal mucosa. The entire cervix was buried in tissue above the vault. During the operation numerous large veins were encountered. The cut edges of the mucosa in the first tense circular bands were approximated with interrupted catgut sutures perpendicularly to the lines of incision and then the vagina was tightly packed with gauze saturated with vaselin. The patient was given hypodermics of morphin for two days following the operation. No difficulty in urination was experienced because of the vaginal pack which was removed two days after the operation. Three days after this the patient was discharged from the hospital. Ten days later in making a vaginal examination, while the very strong circular band, the first one to be incised, was palpable, two fingers could be inserted to the vaginal vault without causing any pain. However, the vagina was stretched digitally until three fingers could be inserted. The uterus had now attained the size of a twelve weeks' pregnancy. On November 14, the patient returned for her complete obstetric examination and the vagina admitted two fingers all the way without difficulty. The patient was permitted to have intercourse and this was accomplished without much discomfort. Subsequent examinations revealed the enlargement of many veins in the vaginal mucosa and in the vulva so that they soon evidenced themselves as large, dilated, and tortuous varicose veins. Because of these varicose veins, a small pelvis, and the fear of a recurrence of the stenosis of the vagina, if delivery were attempted from below, it was decided to perform a cesarean section when the patient went into labor.

During my absence Dr. Horner looked after Mrs. F. On May 5 the patient presented herself in the second stage of labor. Preparations were made for a cesarean section, but before the instruments were ready, the fetal head was found to be well engaged. The child was, therefore, delivered with forceps after an episiotomy had been made. There was a great deal of bleeding from the veins in the vagina and from the episiotomy wound, but this ceased after tamponade. The patient made an uneventful recovery and left the hospital on May 14. When she returned for the customary examination six weeks after leaving the hospital, examination showed that the episiotomy wound had healed very well, but that the vagina was full of irregular adhesions again. Not more than one finger could be admitted into the vagina and that only for a distance of 2 cm. Beyond this point was a very dense circular stricture, the opening in which measured about ½ cm. in diameter. On rectal examination more circular bands were felt higher up in the vagina. The cervix was very small and firm and the uterus, which was of normal size and consistency, was anteflexed. The adnexa showed no abnormalities.

The patient refused to have anything done, but returned several months later because her husband threatened to leave her if something were not done to enable him to have intercourse. On February 13, 1924, therefore, I performed a second and more extensive plastic operation. After leaving the hospital the vagina was stretched with glass dilators from time to time. Coitus after this was performed without any discomfort.

Discussion: The first operation, namely the one performed during pregnancy, was not in reality necessary, but the husband threatened to leave his wife if coitus remained impossible and so the operation was performed. At the time of the last examination the patient demanded that a cesarean section be the means of delivering her next baby. I did not hesitate to acquiesce in this demand because of the great likelihood of recurrence of the stenosis if vaginal delivery were attempted. Thus far the patient has feared to become pregnant again.

Case 2. Mrs. R. R., a primipara, aged 23, married three years, came to see me for the first time August 20, 1926, because of sterility and dysmenorrhea. Her family history was negative. At the age of 15 her appendix was removed.

Physical examination revealed a very short, thin individual who was 5 feet tall and who weighed only 89 pounds. The general physical examination revealed no abnormalities. Abdominal examination showed nothing other than a well-healed appendectomy scar. Vaginal examination was made with difficulty because the patient complained of great pain, even though the examination was made with only one finger in the vagina. The latter was very tight due most likely to spasm of the levator ani muscles. The cervix was long, conical, smooth, and was high up behind the symphysis. The corpus was slightly enlarged, hard, and deeply retroflexed. The patient complained of much tenderness when an attempt was made to elevate the corpus. The adnexa could not be felt because the patient was uncooperative.

Since the patient came essentially because she wanted to have children, it was suggested that the husband's spermatozoa be examined first, and if that were normal, the uterus be anteflexed and a pessary inserted into the vagina. If no pregnancy followed after a few months, the patency of the fallopian tubes would be tested.

The patient did not follow these suggestions, but returned on November 19, saying that her last menstrual period had occurred on October 5, and although she had expected one on November 7, none appeared. She was extremely nervous and vomited every morning. Vaginal examination again was made with difficulty because of resistance on the part of the patient. A definite Chadwick sign was present, but the cervix was not softened. The corpus was felt to the left of the midline, still retroflexed, not larger than before, and not softened. To the right of the uterus was a hard, ir-

regular mass, the size of which could not be determined because when it was palpated the pain was so great that the patient almost jumped from the examination table. A tentative diagnosis of pregnancy and right ovarian cyst was made, and the patient was asked to return in two weeks, which she did. At this time (December 3) she complained of much pain in the right iliac fossa. She weighed 90 pounds. A vaginal examination revealed both Chadwick and Goodell signs. The uterus was still retroflexed, but softer and larger than before. The irregular mass on the right side appeared to be slightly larger and just as tender as at the last examination. The knee-chest position was advised twice daily. The patient was told about the mass to the right of the uterus, but I advised against an operation unless the mass grew rapidly or the pain became worse. The patient returned for another examination on December 19, at which time the uterus was anteflexed, soft, and the size of a seven to eight weeks' pregnancy. The mass previously felt on the right side was much larger, more irregular, and lay behind the uterus, filling the entire culdesac and extending to the right side. It was more tender than before and the patient said she had a great deal of discomfort in the pelvis. A diagnosis of dermoid cyst of the right ovary was made and its removal advised because of the fairly rapid growth and pain.

On January 3 I made a Pfannenstiel incision and removed a dermoid cyst of the right ovary which measured about 8x6x6 cm. The uterus was purplish, soft, anteflexed and enlarged to the size of a ten weeks' pregnancy. Great difficulty was experienced in elevating the dermoid cyst from the culdesac because the pelvic cavity was very small and the pregnant uterus was in the way. The dermoid cyst was adherent to the culdesac by a few thin adhesions which were easily severed. The dermoid alone was removed and when opened showed hair and sebaceous material. The left ovary was examined and found to be of normal size. No corpus luteum could be seen protruding above the surface. Before closing the abdomen the gall-bladder was palpated because a competent internist had told the patient that she had gall-bladder trouble. However, the gall-bladder felt normal and contained no stones. The patient was given a few hypodermics of morphin for two days following the operation. After an entirely uneventful convalescence the patient left the hospital thirteen days after the operation.

Examination six weeks later revealed the uterus to be in good position and the size of a sixteen to eighteen weeks' pregnancy. There was no tenderness at all in the culdesac or in the fornices. I delivered this patient at term by means of a low forceps operation.

Discussion: The first question which can be raised is the justification of the operation. I believe the operation was indicated because of the pain which was at times almost unbearable, but more particularly because of the rapid growth of the dermoid. The latter apparently was quiescent until pregnancy began. Since dermoids are fetal tissue, perhaps the hormones of pregnancy which stimulated the growth of fetal tissue within the uterus also stimulated the growth of the dermoid.

In our case the removal of the ovary containing the dermoid cyst at approximately the tenth week of pregnancy did not interrupt the gestation. No corpus luteum was seen projecting above the surface in the left ovary, but this does not mean that there may not have been a corpus luteum deeper in this ovary. It does, however, signify that the corpus luteum of pregnancy was not of normal size, because such a corpus luteum is usually about 20 mm. in diameter, and this large mass can practically always be seen in an ovary of normal size. Most likely in this case the corpus luteum of pregnancy reached its maximum growth at the sixth or eighth week of pregnancy, and then retrogressed. Numerous sections of the ovary which contained the dermoid failed to show a corpus luteum. In fact, practically no ovarian tissue was found in the removed tumor except at the hilum. The entire ovary seemed to have been converted into a dermoid tumor. Even had the corpus luteum been removed, it is hardly likely that the pregnancy would have been interrupted, for if the corpus luteum is removed after the eighth or tenth week of gestation there is practically no effect on the pregnancy. This is most likely due to the fact that by this time the placenta has taken over the function of maintaining the nidation of the ovum, which function the corpus luteum possesses during the first few weeks of pregnancy.

While removal of the corpus luteum after the eighth or tenth week of pregnancy may not interrupt pregnancy, an operation on the ovaries performed at a vulnerable time may cause an abortion whether or not the removed ovary contains the corpus luteum of pregnancy. This vulnerable period is the time a patient would menstruate if she were not pregnant. Hence when we decide to operate during pregnancy we should select, if we can, a time which would correspond with the intermenstrual period were the patient not pregnant. In our case the patient's menses would have occurred November 7, December 10 and January 12. The operation was performed on January 3, which corresponds to the intermenstrual period.

Of the utmost consequence in the avoidance of interrupting pregnancy is the gentle manipu-

lation of the uterus. The latter organ should be touched only when absolutely necessary and then with utmost care. Squeezing and pulling the uterus favor abortion.

Another important factor in the prevention of abortion following an operation is the administration of sedatives like morphin and codein for a few days after the operation. This medication has a tendency to allay the irritability of the uterus. No laxative should be given for a few days. On the fourth day an ounce of mineral oil should be administered three times and in the evening about 4 oz. of olive oil should be inserted into the rectum, to be retained. The following morning a soap suds enema should be given.

In performing this operation on our patient a Pfannenstiel incision was employed first, because it is much neater, and second because there is much less likelihood of the development of a hernia. This is important when we consider that the abdominal wall is going to stretch all through pregnancy and that labor will increase somewhat the burden of the scar.

Case 3. Mrs. I. L., a primipara, aged 22, complained bitterly of severe backache when first seen on the gynecological service at the Cook County Hospital on October 22. She had had backache for about two years, but during the last few weeks it was almost unbearable and codein was the only drug which gave partial relief. The general examination was negative. Vaginal examination revealed a nulliparous outlet. There were definite Chadwick and Goodell signs and the cervix was high up behind the symphysis. The corpus was the size of a nine to ten weeks' pregnancy, acutely retroflexed and very soft. The adnexa felt normal. An attempt to elevate the uterus caused excruciating pain. The patient was placed in the knee-chest position and another attempt made to change the position of the uterus. The only thing accomplished was to give the patient a great deal of pain. In spite of palliative measures, the pain persistently became worse and the retroflexion remained. An operation, therefore, seemed justified. On November 16 the abdomen was opened and an acutely retroflexed uterus the size of a three months' pregnancy was seen. It was very soft and markedly hyperemic, as were also both fallopian tubes. Both ovaries were normal, and a small cystic corpus luteum was seen in the left ovary. There were a few adhesions between the uterus and the culdesac. These were released and a modified Gilliam suspension of the round ligaments was performed. The patient was given sedatives for a few days following the operation, and after an uncomplicated recovery left the hospital November 26. The backache disappeared completely after the operation. When seen in February the patient was feeling very well and the uterus was the size of a six months' pregnancy. The patient could not be traced after this examination.

Discussion: It is very seldom that one must elevate a pregnant uterus by operation, because a pessary is usually successful in relieving the symptoms caused by retroversion and retroflexion of a pregnant uterus. This is the first operation of this kind during pregnancy that I have performed. There was justification for the operation because of the increasing severity of the backache which could not be relieved by nonoperative procedures, and which seemed certainly to be due to the adherent, retroflexed, pregnant uterus. The relief experienced after the operation was a comfort not only to the patient but also to my own conscience. Whether the uterus would have risen out of the pelvis of its own accord and thus brought about relief is hard to say, but probably not, because there were adhesions between the uterus and the culdesac. Furthermore, the patient had to be relieved of her pain.

Case 4. Mrs. A. R., aged 21, was admitted to the Chicago Lying-in Hospital, January 3, 1929, because of abdominal cramps. The important item in the past history was that on two occasions the patient had typical attacks of appendicitis, and was sent to a hospital but on neither occasion was an operation performed. The patient's last menstrual period had begun May 20, 1928. The day before admission to the hospital she had cramps in the abdomen and vomited once. Because of this a physician was summoned and he sent her to the hospital believing that she was in labor. On admission at 8:15 p. m. the patient was having cramp-like pains every five minutes, but she was fairly comfortable until about 12:30 a. m. At this time the patient complained of generalized pain all over the abdomen but most marked in the right lower quadrant. She vomited once in the hospital. At about 2 p. m. she was suddenly relieved of her severe pain but a dull ache persisted in the right lower quadrant. Physical examination of the head, neck and chest were negative. On abdominal examination there was generalized tenderness all over, but mostly on the right side. The entire abdominal wall fairly rigid and movement of the thighs accentuated the pain on the right side. The uterus was the size of a 7½-8 months' pregnancy and contracted at regular intervals.

The fetal heart tones were 180 per minute and regular. Rectal examinations revealed the cervix to be effaced and dilated 3 cm. and the head was 1 cm. above the ischial spines. The temperature was 100° F. and the pulse rate was 124. The white blood cell count was 16,400, the red cell count was 3,500,000, the hemoglobin 90% and the sedimentation time only 35 minutes. A diagnosis of acute appendicitis was made and Dr. M. Parker and I operated on the patient. A much higher

incision than the usual McBurney was made because the pregnant uterus displaces the cecum and appendix and also covers these organs. The appendix on exposure was found to be gangrenous and perforated, and an acute peritonitis was present. The appendix was removed and the abdominal wall closed without drainage.

The patient was given a few hypodermics of morphin and was very comfortable the night following the operation. In the morning, however, there was complete dilatation of the cervix and the baby was delivered by means of an easy low forceps operation. The child, which weighed 1,940 gm. (4 lb. 4 oz.), died a few hours later.

The patient made a speedy and uneventful recovery and was discharged from the hospital eleven days after the operation. The wound healed per primum and the highest temperature after the operation was 100.3° F.

Discussion: This patient had twice previously been taken to a hospital because of attacks of acute appendicitis and she was sent home without being operated upon. Her physician did not tell her why he did not operate. When she was admitted to the hospital under our care, she was in active labor and the interne who first saw her thought she had an abruptio placentae. However, a more thorough examination made the diagnosis of acute appendicitis obvious. The fever, the tachycardia, the vomiting, the abdominal tenderness and rigidity, the low sedimentation rate and the history of previous attacks all helped to make the diagnosis. The operation was technically difficult because of the large pregnant uterus. We operated during labor and in spite of large doses of morphin, the labor progressed and the child was delivered without any trouble. We could not determine definitely whether the attack of appendicitis and peritonitis preceded the onset of labor or vice versa, but believe the former to be the more likely. The peritoneal inflammation probably irritated the uterus to contract. It was fortunate that our patent recovered because the mortality among pregnant women and women in labor who have acute appendicitis and peritonitis is very high.

Case 5. Mrs. M. A., a tertipara aged thirty-one, complained of severe pain in the vagina and lower abdomen during the sixth month of her third pregnancy. On examination, a cyst about 4x3x3 cm. was found within the posterior vaginal wall situated in the midline about 4 cm. from the fourchette. The cyst was removed and the patient's recovery was uneventful. After the operation all her symptoms disappeared miraculously. The pregnancy progressed normally and at the time of labor, on February 21, I performed an extensive plastic operation on the perineum and rectocele, because the patient had a large cystocele and an old third degree laceration. The puerperium was uncomplicated.

Discussion: Not much need be said concerning this case. The removal of the vaginal cyst was a minor operation which could not have any effect on the pregnancy. The only danger was that of infection, but this did not occur. Why the removal of this cyst caused the sudden disappearance of all of the patient's symptoms is hard to say unless the effect on the psyche played an important part.

Case 6. Mrs. W. S., a primipara aged thirty-two, came to see me on September 24, saying she had had her last menstrual period June 22. From the point of view of our present discussion the only important finding was a friable, bleeding polyp about 4x2x2 cm. which projected from the cervical canal. The polyp was removed with a nasal tip cautery. There was no bleeding after this and the pregnancy continued to term. The child was delivered by low forceps and examination of the cervix showed no abnormalities. The puerperium was normal.

Case 7. Mrs. M. G., a primipara aged nineteen, was first seen on March 17, when she was in her sixth month of pregnancy. Of interest to us was the fact that she had condylomata on the vulva, in the vagina, and on the cervix. Silk ligatures were placed around the condylomata on the vulva and in the vagina, but those on the cervix were removed with the cautery. The pregnancy continued uninterrupted. Delivery was accomplished at term with low forceps and the puerperium was normal.

Discussion: Cases 6 and 7 may be discussed together. At first glance it would seem that a cervical polyp is a harmless thing and that the removal of a polyp would entail no difficulties or dangers. While this is essentially true in the nonpregnant state, it is nevertheless hazardous at times to remove a polyp during pregnancy. In support of this contention the fatal case of Heidler might be cited. (Archiv für Gynäkologie 1924, cxxi). Heidler strongly counsels against any manipulation of the cervix during pregnancy. In both of my cases the puerperium was afebrile and undisturbed, and in both cases the cervix after delivery appeared normal in every way.

SUMMARY

In this paper the question of pelvic and abdominal operations during pregnancy is discussed. Illustrative cases of operations for the following conditions are cited: partial stenosis of the vagina, dermoid cyst of the ovary, persistent retroflexion of the gravid uterus, perforative appendi-

citis with peritonitis, vaginal cyst and cervical polyps.

185 N. Wabash Ave.

DISCUSSION

Dr. O. H. Crist, Danville: We are fortunate, I think, in being situated as we are so near a medical center as Chicago, from which place such a vast supply of material comes forth and from which we can get such papers as Dr. Greenhill presented. I appreciate it.

I think we are familiar with the fact that during pregnancy we operate only in emergency and on rare occasions. The question is: what constitutes an emergency? Here is where the personal element and the personal experience act as the deciding factors. I presume that we are fairly well agreed that the ordinary operation performed under ordinary conditions and performed with delicate care and precision can be done with safety in the pregnant woman, and yet there is hardly a man who would rather not operate on the pregnant woman. There are some disadvantages and some dangers in operating on this class of women. In the first place, infections do not go well with pregnancy. It is far more necessary that the diagnosis be made early and that operation be made early where there is infection. Peritonitis spreads more rapidly in pregnant cases. There is weakened resistance to infection in pregnancy and weakened reaction. There is less likelihood of protective adhesions than in the non-pregnant woman. Drainage is less efficient. The mortality, which may well be classed as the mortality of delay, is somewhat greater. In this class of cases early diagnosis and early operation are very desirable and very necessary.

A few general rules may be laid down for pregnant patients. First, the earlier the pregnancy the safer the operation both as to life and the interruption of pregnancy. Also the necessity of early diagnosis. Many acute conditions are hard to diagnose with the association of pregnancy. Mature judgment and skill are necessary in making these diagnoses. The mortality rate is higher and in suppurative cases is much higher. One group of cases is reported in which the mortality rate is thirty per cent. for the mother and forty per cent. for the child including abortions.

Abortions are prevented, first, by operating early in pregnancy, second, by operating before infection has taken place, third, by little manipulation of the uterus, and fourth, by the liberal use of morphin as was brought out in the paper. Do not wait for pain to give morphin. Keep the patient well under the influence of the drug for the first few days.

Some of the conditions requiring operation are tumors of the pelvis. These may be either myomata or ovarian tumors. Myomata exist more frequently than is generally supposed. Fibroids rarely obstruct, and may interfere with pregnancy but little. If the fibroid be in the cervix or involves the lower uterine segment, it is drawn up by lifting out of the pelvis either by manipulation or by the necessary contractions of the uterus. The pedunculated type may become twisted and by cutting off the circulation may create an acute abdominal condition requiring operation. This should be done early. Ovarian cysts constitute a menace. They are more apt to obstruct labor than fibroids. They cannot be lifted out of the pelvis as well. An ovarian tumor recognized early in pregnancy is probably best removed. This can be done with safety and labor is undisturbed. If it is discovered later in pregnancy, experience and judgment must decide the treatment. The pedunculated type of tumor is not apt to interfere with pregnancy or labor unless they become strangulated. If so, they are treated as an acute condition and operated on as though no pregnancy exists. I have had in my experience a pedunculated dermoid cyst, which had been noted as a lump in the abdomen for years. When the patient was two months pregnant the first time, torsion of the pedicle caused acute symptoms which called for operation. The tumor was removed and at operation a dermoid cyst of the opposite ovary was discovered. Each of these tumors was the size of a grapefruit. It was not pedunculated but involved the entire ovary. This one was also removed. The pregnancy was not disturbed and a live baby was delivered in due time.

Among the conditions requiring operation during pregnancy might be mentioned extrauterine pregnancy. There is no argument on this subject. Extrauterine pregnancy is operated on as though no pregnancy exists. It is operated on when diagnosed before or after rupture.

I can imagine another non-inflammatory condition requiring operation, namely, retroverted and incarcerated uterus. Operation is then permissible and advisable if manipulation has failed to replace the uterus to its normal position.

Among the inflammatory conditions requiring operation, the most common is appendicitis. I think it is well agreed that if diagnosed early it should be removed no matter what the stage of pregnancy. If not seen or diagnosed early or if rupture has taken place or if the situation has already developed to a serious point, it is a question in my mind what to do. If there is definite evidence of suppuration, abortion is almost sure to follow either from the infection or the extension of the infection into the uterus. In the second place, it is difficult to drain the peritoneal cavity. The man who claims to drain the peritoneal cavity is deceived. I would rather give the patient a chance undisturbed, and I realize there are certain advocates of drainage who will not agree with me.

Pyosalpinx is a condition which becomes a serious one in pregnancy. It is probably best removed when diagnosed. It can be removed in the early months of pregnancy without disturbance and without trouble. If it is diagnosed late in pregnancy, it may be an indication for cesarean section. In my opinion many of the puerperal infections are caused by pus tubes or other infections which already exist and which labor excites and spreads through the peritoneal cavity.

Pelvic abscess should be opened the same as if no

pregnancy exists, being careful not to manipulate or disturb the uterus.

Operations on conditions outside the pelvis are done without hesitation. I was interested in Dr. Greenhill's remarks on the cautery. I have held the opinion that the cautery during pregnancy would be dangerous and would lead to the interruption of pregnancy. I am glad to hear that in his cases it has not interrupted pregnancy.

Dr. J. P. Greenhill, Chicago (closing the discussion): I thought I would not disagree with anything Dr. Crist said, but I have to differ with him in two statements. First, is his advocacy of early operation involving the ovaries. As mentioned in the paper, when we operate too early, abortion may result, especially if the corpus luteum is injured or removed. It is best to wait until after the eighth or tenth week if possible, to operate on the genitalia. However, operations before this time are occasionally successful. For example, at the present time I have in the hospital a patient from whom, eleven days ago, I removed a dermoid cyst of the ovary but not the one containing the corpus luteum. She was not more than seven weeks pregnant and her gestation is still going on.

Secondly, I disagree with Dr. Crist when he suggests letting patients with appendicitis alone. I think appendicitis is a surgical condition and the pregnancy should be disregarded. The patient should be operated upon, but not with the idea of drainage. The peritoneum takes care of most of the infection which is present, and there is no necessity for drainage. We should remove the appendix in cases of acute appendicitis as soon as possible after the diagnosis is made. I cannot see the logic of not operating on patients with appendicitis, and then insisting upon operation for pus tubes which are found during pregnancy. Gynecologists usually leave acute pus tubes alone, and in pregnancy practically all the cases of salpingitis and pyosalpinx are acute. At the Chicago Lying-in Hospital I do not know of a single case where pus tubes were removed during pregnancy.

I was glad to hear Dr. Crist say he favors a policy of conservatism when fibroids are present but not with ovarian tumors. Fibroids usuallly give no trouble during pregnancy, labor or the puerperium. Ovarian cysts usually do. Therefore, it is best to remove an ovarian cyst which has attained the size of a tennis ball or larger during pregnancy, while most fibroids can be left alone. Usually fibroids grow upward with the uterus and even cervical fibroids frequently rise out of the pelvis and do not produce dystocia. Many patients complain of vaginal bleeding and it seems as though there is a placenta previa. Not infrequently if we make a careful physical examination we find the cause of this bleeding to be the cervix. In these cases I do not hesitate to use the electric cautery and I have had good results. I have had only one case of dystocia from the scars which resulted and I recall at least six patients in whom I have cauterized the cervix during pregnancy because of bleeding from the cervix.

RADIATION THERAPY IN NON-MALIGNANT CONDITIONS*

H. A. CHAPIN, M. D.,
JACKSONVILLE, ILL.

Owing to the fact that the medical profession is ever on the alert to find any advanced method of treatment which will give relief more promptly and satisfactorily; and being convinced that radiology has not received full recognition not alone as to its great value in accurate diagnosis of pathological conditions, but of its use in the treatment of many diseases which have not responded to other means of therapy, the writer consented to present a paper to call to your attention briefly a few of the many conditions to which the radiologist has contributed relief to the afflicted.

Radiation therapy which includes radium. x-ray and ultra-violet, is only in its infancy of application and we are daily finding new and valuable uses, and every physician should have a knowledge of its possibilities that he may advise his patients honestly and intelligently. Physicists and electrical engineers have enabled us to administer radiation with precision as we can now accurately determine the dosage.

Radiology has probably been the means of greater advance in medical science within the past ten years than any other branch of study. The practice of radiology is a specialized science and should be practiced only by physicians with a well grounded education in medicine, especially anatomy, physiology, histology, pathology, chemistry and physics. We do not claim that radiology has the key to health which can unlock the door and reveal the great mystery of human ailments but we do say, without fear of successful contradiction that we have been able to accomplish some truly marvelous results in accuracy of diagnosis which greatly simplifies the treatment and contributes to the relief of the suffering.

The object of this paper is primarily to call to your attention the fact that many conditions which heretofore have stubbornly failed to yield to any form of medication may be relieved by radiation. We must ever be mindful of the fact that so-called minor ailments are probably in the aggregate the cause of more pain and incapacity

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than the more serious diseases, but have been neglected because of lack of some satisfactory treatment.

Embryology: Cell activity is influenced by radiation depending upon the time in regard to its stage of development and the dosage. During cell division radiation has a most marked effect; small doses may stimulate division while larger doses retard or destroy the cell. MacKee speaking of *plant* life says, "It is interesting though not surprising to know that the effect of x-ray and radium in the vegetable is similar to that in the animal kingdom. the result depending on the dose and the stage of development. It is possible to stimulate growth, to retard growth, to prevent fertilization and to affect complete arrest of development just as in animal life."

The effect of radiation is chemical, bio-chemical and biological.

That radiation produces changes in the living tissues is a proven fact and both organic and inorganic compounds undergo change through the process of ionization.

Gaseous compounds are decomposed by the process of oxidation. Secretions are altered in composition and may be increased or decreased by radiation. This is especially demonstrated by the checking of the secretion of a too active thyroid in case of thyrotoxicosis. Lymphoid tissue may be made to shrink and disappear.

Pain: That pain may be relieved by radiation in many cases is an established fact. Many patients will attest to the fact that they have been partially if not completely relieved within a few hours. In the writer's experience a surgeon came for examination of lumbar spine to determine the cause of his backache. Films were made showing arthritic changes in the vertebrae. The second day following he returned to the office for radiation stating that x-ray had given him almost complete relief.

Pruritis, local and generalized. may be controlled by mild x-ray exposure and the ease of application in otherwise inaccessible areas such as the anus and vagina especially commends its use. Within a few hours there will be almost if not complete disappearance of the itching.

Lymphangitis: There is no treatment known at the present time which will give the same relief with complete disappearance of the glandular infection and enlargement as does radiation in infections of the lymph glands, especially those of such frequent occurrence as we see in childhood. This treatment applies equally well whether the infection be of the tuberculous or chronic streptococcus type. Treatments must not be too rapidly pushed, but fractional doses administered. We expect relief and seldom is there a recurrence.

"Great oaks from little acorns grow; great aches from little toe corns grow." MacKee in his most recent work, says of corns, callus and pathological hypertrophies. These lesions are characterized by acanthosis and particularly hyperkeratoses, a protective reaction to traumatism. Presumably the increased activity is in the lower part of the rete and in the basal cell layer. Irradiation prevents further cell multiplication and the horny layers exfoliate. If in the meantime the local cause has been removed there will be no further development. It even seems possible to so modify the epidermis that it ceases to react to slight pressure or irritation. It has been my privilege to treat many cases of corns, calluses, and warts, including plantar warts, and the relief has been most prompt and within a short time the skin assumes a normal condition.

Dermatitis Seborrheica: Within the past few months two cases of extensive involvement, the entire body being affected, have come under my care for treatment. While the subjective symptoms are comparatively mild, itching being the chief complaints, it is none the less annoying.

This you will recall is an inflammatory disease of the skin with reddened scaly patches involving usually the hairy portions of skin, but is frequently, as in the cases reported here, distributed more or less over the entire body, beginning in the scalp and rapidly spreading. The scaling and oozing is most annoying to the patient.

The treatment of these cases has been entirely confined to body radiation with the mercury-quartz lamp beginning with three minute exposures at thirty-six inch skin distance, both front and back. Almost from the first application there was quick response and we have been surprised at the rapidity of recovery. This method of treatment is far more satisfactory for the comfort of the patient than any other for

we must recognize the annoyance of various salves, paste and solutions. The quick response, ease of application and lack of annoyance to patient, fully justify this treatment.

Herpes Zoster seems to be the result of an infection which produces inflammation of the posterior root ganglion of the spinal nerve or may be precipitated as a result of injury to the nerve. The exact nature of the infection is not yet known, but Rosenow produced it experimentally by injection of streptococcus. An acute inflammatory disease of the skin with a vesicular eruption arranged along the course of a nerve. This is usually a very painful lesion with a slight elevation of temperature, headache and general depression; not infrequently do we find some glandular enlargement. The writer has found that radiation promptly relieves pain. The average case is given ⅓ skin dose over the spine with 3M.M. aluminum filter, repeated if necessary, on second or third day, following. Quartz lamp treatments are started at once, general body radiation. The relief is prompt, the eruption dries up and disappears in a few days.

Acne Rosacea: An inflammatory lesion of the skin usually limited to the nose and face with hyperemia, increase and dilatation of the capillaries. This condition is very annoying although the subjective symptoms are slight. When untreated it has a tendency to grow progressively worse and disfiguring as a result of hypertrophic changes. This condition will respond to radiation and usually the face is left clean and smooth after mild filtered doses at intervals of ten to twenty-one days. Complete relief will follow in from two to ten treatments.

Acne Vulgaris is one of the frequent skin diseases which we are called upon to treat, and yet from my experience in general practice it has been the most stubborn, and we have been prone to treat indifferently or not at all with the idea that it would disappear spontaneously in early adult life.

The disease involving the pilosebaceous structures with the formation of nodules, papules, and pustules while primarily on the face also involves frequently the neck, back and chest. Apparently the result of acne bacillus and of multiple infection including the staphloccoccus. We may expect very prompt response.

This is one of the most annoying and distressing diseases with which the young adult has to contend as it appears on the face of boys and girls at an age when they are most sensitive about their appearance. We must not push too vigorously the radiation, but believe the best results are obtained by fractional doses ten days to three weeks apart. Pustules are best treated by desiccation, which though painful, requires only a fractional part of a second for complete destruction and effective sterilization.

With x-ray treatments great care should be exercised, as the response in two apparently identical cases may not be the same, but with carefully regulated dosage relief is most certain.

Ivy Poisoning: We should never fail to advise the actinic ray treatment in ivy poisoning as very prompt relief and cure is effected in the cases we have treated and the results have been most satisfactory.

Psoriasis: We have been able to give some measure of relief in this condition, but without exception there have been recurrences and it seems doubtful if we should promise any permanent result.

Onychitis, which we recognize as a painful infection of the matrix or folds of the nail, has not failed in the writer's experience, which is however, somewhat limited, to respond satisfactorily to mild x-ray treatments.

Erysipelas: It has been my privilege to treat a few cases of erysipelas. The mercury-quartz lamp was used and marked improvement was noted within twenty-four hours and recovery was apparently much hastened.

Keloid: Radiation has proven so satisfactory in keloid that it seems unnecessary to any more than mention the fact. They may be removed by surgery or by carbon dioxide snow, but recurrences are common, while this is not the case when treated by radiation.

We may say also one great advantage of radiation is lack of pain or discomfort.

Tinea Barbae is very responsive to radiation either by x-ray or radium.

Lichen Planus: The writer has had very satisfactory results in this condition of the chronic localized type. The literature makes frequent reports of the successful results in the acute type. It appears that radiology offers more rapid response than does medication.

Nevus Vasculosus: The use of x-ray and

radium is so satisfactory and complete removal so sure and free from the possibilities of infection we are of the opinion no other treatment should be considered. The writer has been especially pleased with the result of radiation therapy of lesion on a child nine months of age situated above and involving upper eyelid which interfered with the opening of the eye. The lesion could scarcely be seen at the end of a year.

Carbuncles: This painful and dangerous disease is robbed of many of its horrors. Pain is relieved and recovery hastened by x-ray. We have treated more than 200 cases within the past few years; many of which would have had a fatal termination, we believe, had it not been for the relief of radiation. Drainage must be established and free discharge of pus permitted.

A few cases of deep seated infections have been delayed in recovery and the pain more severe and prolonged than would have been the case had we insisted on early incision.

Usually the patient will be greatly relieved of pain within six to twenty-four hours; drainage is hastened, the numerous small openings coalesce and recovery hastened.

Thyrotoxicosis: Several years ago the writer presented a paper at the meeting of the Western Roentgen Society at Cleveland in which the claim was made that toxic goiter was essentially a disease for the radiologist and that surgery would not give the same percentage of cures as radiation therapy.

I have no reason to retract this statement nor to in any way modify it, except to say, after several years of observation of many, even severe types, that it is not a surgical disease, but essentially one for radiation treatment. Almost without exception at the end of six weeks the patient will say without hesitation that improvement is evident and metabolism tests will show steady but decided relief.

We claim that radiation presents the following advantages:

Hospitalization is unnecessary and the working patient may carry on his usual work, although it would be desirable and recovery hastened by confining the patient to bed. The administration of a general or local anesthetic is avoided, thus eliminating this possible hazard.

We must admit that an operation of this character must be attended by some danger, and shock is unavoidable. With radiation there is no shock or danger to life.

It is very apparent that shock, fear, hemorrhage, hospitalization with its attendant expense, the annoyance of dressings, etc., is of no advantage to a patient suffering from a toxic thyroid. These are all eliminated by radiation treatment.

Vernal Conjunctivitis: The writer has now under observation two cases of vernal conjunctivitis in which we have used radium and the relief afforded has been most gratifying, and I believe complete relief will follow.

The writer has treated chorea, chronic ulcers, endometritis, ringworm, tuberculous laryngitis, but it is apparent that this paper cannot deal with all the pathological conditions which respond to radiation therapy.

MacKee says there are more than eighty diseases which are successfully treated by x-ray and radium.

Pusey has said "It is in fact hardly too much to state that roentgen therapy is the most widely useful addition to the treatment of skin diseases that has been made."

We are justified in using x-ray in any case of streptococcus or staphylococcus infection.

DISCUSSION

Dr. Thomas D. Cantrell (Bloomington): I had a patient come to me from fifty miles distant, a young man with an ulceration of the face. He was about to graduate and was in no condition to graduate. The doctor brought him over one evening. I took him to the office and examined him and gave him one treatment with ultra-violet, I think about five minutes in time. The doctor said, "When do you want to see him again?" I told him I didn't want to see him again, that he was cured. That has been my experience with impetigo.

The first experience was in a hospital where an infant became infected from the common dressing table. Every infant in the hospital was infected with impetigo contagiosa. I ordered the dressing table eliminated and one treatment given the baby over the entire body. The whole thing was eradicated from the hospital inside of a week's time.

It is very important in regard to calluses and corns. The x-ray is a nonessential there, because with a little patience it can be as well done with the ultra-violet. It ceases to form under the ultra-violet. I am in favor of using the ultra-violet wherever it can be used, with the exclusion of the x-ray, if possible, because I feel there is never an x-ray treatment given without more or less detriment following, as is true with most of our medical and surgical procedures. But the ultra-violet

seems to be constructive and not destructive. I feel it is perfectly safe in safe hands.

Dr. I. S. Trostler, Chicago: While it is a fact that Dr. Chapin has not given us anything new, I want to say this is the kind of a paper we want presented here and published in our state journal so that the general practitioner may get it. That is the type of paper the general men should read and the only way they will get it. They do not come to our meetings, because they feel they will get the paper in the journal of the State Medical Society.

I want to thank Dr. Chapin for presenting this paper.

CONTROL OF MOSQUITOES IN THE PREVENTION OF MALARIA*

ANSELMO F. DAPPERT
Assistant Sanitary Engineer
State Department of Public Health
SPRINGFIELD, ILL.

The history of the tremendous amount of work leading up to the discovery at the close of the last century, of the cause and prevention of malaria is well known to the medical profession. It is also well known that the period immediately following the World War marked the beginning of extensive malaria control activities throughout the United States, especially in those sections where malaria has long been and continues to be a distressing economic problem. In the brief ten years that have passed tremendous strides have been taken in this line of endeavor and the literature on the subject has become so voluminous that a catalogued index of the numerous papers, treatises and reports would in itself constitute a large sized volume.

It is not the province of this paper to go into a general discussion of the control of mosquitoes in the prevention of malaria because the facts are quite generally known, but rather to point out the present status of malaria in Illinois and to outline the steps which have been taken in this State to eliminate the disease.

History of Malaria in Illinois. There was a time 50 to 60 years ago when malaria presented a very serious problem in practically every county in the State. Historical records prove without a doubt that the disease was present in pandemic form in the northern as well as the southern counties, being more prevalent perhaps in the counties bordering or traversed by the larger rivers along which extensive swamps and marshes prevailed.

Gradually as the population of the State increased and the agricultural industry became more important, there was a movement toward the reclamation of all wet and swampy lands for agricultural purposes. The significance of this movement which has persisted only for about 50 years is reflected by the fact that in the entire State exclusive of the Ohio, Cache, Saline and Big Muddy River watersheds which lie in the south portion of the State, 78 per cent. of all lands originally in need of drainage for agricultural purposes have been drained. It is an interesting observation to note that in the Ohio, Cache, Saline and Big Muddy River watersheds malaria is still regarded as somewhat prevalent, only 34 per cent. of the lands originally in need of drainage have been drained. The large scale drainage operations carried on in this State during the past 50 years have certainly resulted in the virtual elimination of the disease in all except the southern counties. Even in the southern counties the disease has been reduced so greatly that the influence of drainage work upon the disease incidence is apparent. The farmer, interested in greater production and the reclamation of his swamp lands for agricultural purposes, has, unknowingly probably, exerted the greatest possible influence in reducing the incidence of malaria in this State.

If drainage has been the great factor in reducing malaria in the State we would expect to find in the Sections which have not been improved and which consequently have retained the physical aspects of 50 years ago, that malarial conditions of the present simulate the conditions of 50 years ago. In this connection it is interesting to point out briefly the results of a comprehensive malarial investigation carried on by the State Department of Public Health in 1925 in 7 of the southernmost counties. The results of this survey plainly show that in certain unimproved sections where conditions simulate those of the past malaria rates are excessively high and probably are some where near the rates that prevailed many years ago.

Incidence and Distribution Characteristics of Malaria in Rural Areas of Southern Illinois. The survey was begun in January of 1925 and

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continued through March, 1925. The method employed for making the individual diagnoses which make up the mass diagnosis, was that of examination of children for the presence of enlarged spleen. The elicitation of histories of malaria in individuals, although open to many fallacies, was relied upon to some extent. The work was at all times under the direction of Dr. H. P. Carr of the International Health Board. The school children of 104 schools in seven counties were examined for enlarged spleens and histories taken.

Before passing to the malarial indices as determined by the survey it is well to consider briefly the two general types of topography that prevail in southern Illinois. Those familiar with the section will recall that a spur of the Ozarks extends laterally across the State just south of Carbondale. In this "Ozarkian Uplift" the topography is quite rugged. This rugged territory prevails throughout Union County and about half-way down into Alexander County. Paralleling the Ohio and Mississippi Rivers are extensive flats and bottom lands, some of which are substantially unchanged from their condition of 50 years ago. These bottom lands extend some distance along the tributaries to the Ohio and Mississippi Rivers into the rugged portions of the counties. The two general types of topography in the section are therefore the rugged uplands or hill sections and the low flat bottom lands or swamp sections. It is in some portions of the swamp sections that physical characteristics have remained practically unaltered for many years.

A summary of the spleen data from schools attended by pupils residing in the uplands or hill sections shows that out of 569 spleen examinations only 21 or 3.7 per cent. were found positive. Out of 914 spleen examinations made upon pupils residing in the low swampy sections, 134 or 14.6 per cent. were found positive. The results of the histories are equally interesting. The history incidence of malaria among pupils residing in the uplands was found to be 17.4 per cent. as compared to 25.1 per cent. for the pupils residing in the bottom sections.

Based upon spleen rates of 3.7 per cent. for the hill sections and 14.6 per cent. for the bottom sections, the data not only indicate the exceedingly greater prevalence of malaria in the bottom sections but also that a significant and positive incidence of malaria still exists in the hill sections, and that compared to the incidence prevailing in the remaining counties of the State, the malaria problem of the southern counties is one of major sanitary importance.

The spot maps which were worked out in connection with the survey revealed some interesting and important information regarding malaria distribution. From the foregoing brief analysis it is seen that the severe malaria problem of southern Illinois lies in the great river valleys, the Mississippi, Ohio, Wabash, Cache, Saline and Big Muddy. When the spot maps covering this area were studied it was found that the infection was not evenly distributed through the area, but that the cases tended to group themselves in small foci. As an example of the intensity of the disease in certain localized areas mention might be made of the spleen rates determined for the following schools:

School	Location	Per cent. enlarged spleens
Howardton	Jackson County—Bottom Section...	23.8
East	Jackson County—Bottom Section...	33.3
Grimsby	Jackson County—Bottom Section...	27.8
Crain	Jackson County—Bottom Section...	30.7
Logan	Jackson County—Bottom Section...	33.3
Neunert	Jackson County—Bottom Section...	45.4
E. Cape Girardeau	Alexander County—Bottom Section.	36.3
Lower Bend	Alexander County—Bottom Section.	71.5

Certainly in the Lower Bend region of Alexander County present conditions are not greatly unlike those of the past and it is in this region that about 75 per cent. of the people still have malaria.

The focusing of malaria cases about isolated points suggest that even in Southern Illinois where malaria is still considered to be somewhat of a problem, the solution may not be at all difficult and may easily be brought about by concentration of remedial measures at a few single points.

Mosquito Control Measures. In Illinois there is only one species of mosquito that appears of much consequence insofar as the transmission of malaria is concerned. This is *Anopheles quadrimaculatus* and is the same mosquito that is so prevalent in the south. Three or four other kinds of *Anopheles* are native to Illinois as for example *punctipennis* and *crucians* but none of these appear to play much part in the transmis-

sion of malaria. The *quadrimaculatus* mosquito is a preferential mosquito, universally adapted to one particular type of breeding place. If this type of breeding place is not present in a community malaria is quite apt to be absent. The malaria bearing mosquito requires comparatively fresh water with plenty of marginal vegetation and surface debris to afford protection. An ideal *quadrimaculatus* breeding place is a cypress swamp. Small pools with margins heavily overgrown with large grasses, old bayous left in the neighborhood of changing streams, or the slowly flowing waters of artificial drainage ditches such as exist in the Mississippi bottom lands of Southern Illinois, all are typical *quadrimaculatus* breeding places.

The flight range of *quadrimaculatus* is about one mile. Consequently in any given area over which malaria mosquito control is sought, if all *quadrimaculatus* breeding places within one mile of the area to be controlled are eliminated or placed under control, effective malaria prevention results.

There are only a few simple anti-mosquito measures that can be effectively employed in mosquito control work. The first of these of course is drainage. By removing the water, mosquito breeding is positively destroyed. Oiling is effective but is not so positive, especially in places where there is considerable aquatic growths or surface debris to prevent the proper spreading of the oil films. Regrading of ditches and streams so as to remove pot-holes and produce a free flow of water is also effective. Top water minnows are natural enemies of mosquito larvae and when they are present in a pond or stream in sufficient numbers they will keep the mosquito population pretty well suppressed. The stocking of ponds and other breeding places with these top-water minnows is therefore an important method of control. Dusting water surfaces with Paris green and dust is instrumental in reducing Anopheline breeding. Screening measures to keep the mosquito away from sick persons and infected mosquitoes away from well persons are important. And lastly, might be mentioned "swatting." Le Prince has found that after a female mosquito takes her blood meal she usually rests for an hour or two afterwards. Consequently if a regular practice is made of swatting mosquitoes in the morning before breakfast and in the evening after supper, following the periods when they have made their attacks, much good will be accomplished, and if the mosquito has become infected she will be killed before she has a chance to leave the premises.

Malaria Mosquito Control in Illinois.—Since 1922 there have been several effective mosquito control demonstrations in this State. In some of these demonstrations the control of malaria has been the primary consideration, although to obtain popular support for the work, the mosquito nuisance received equal consideration. The various projects which have developed in the last six years included demonstrations at Carbondale, Herrin, Belleville, West Frankfort, Murphysboro, Gorham, Ravinia Park and Des Plaines River area. Some of these projects were continued for one, two or three years and others were carried on for only one year. The demonstrations have resulted in the continuation of three of the projects on a permanent basis.

The Carbondale Project in 1922.—In 1922 the Lions Club of Carbondale financed a malaria-mosquito control campaign. This project will be described because it was the first project in the State, and because great care was taken in keeping an accurate record of the work. The project furnishes an excellent demonstration of how malaria can be reduced through the elimination of mosquitoes.

In 1921 there were by a house to house canvass, 267 cases of malaria in Carbondale, a city with a population of about 7,000 . The physicians' estimates of cases for 1921 totalled 300.

The mosquito breeding places included about 60 acres of cattail swamps on the north side, a 40 acre lake on the south side, a number of small ponds, and about 6 miles of ditches and streams, all within mosquito flight distance of the city. The trouble was further augmented by an enormous number of rain barrels and open wells and cisterns.

Nine thousand feet of ditches to drain the cattail swamps were constructed by the use of dynamite in 15 days at the beginning of the season in 1922. The ditch had an average cross section of about 10 feet top width, 2 feet bottom width and 3½ feet deep. A path was first cleared through the cattails to facilitate the placing of dynamite. Holes were punched at intervals of 14 to 18 inches depending upon the character

and condition of the soil, and one-half pound sticks of 50 per cent. straight nitro-glycerin dynamite inserted to a depth of 16 to 22 inches, depending upon the desired grade. Only one stick was capped with an electric fuse, and when fired the entire line exploded.

By this means sections of the ditch 700 feet in length were constructed in a single blast. While the resulting ditch, of course, was not as smooth and neat as a dug ditch, it was constructed rapidly and the swamps were drained before the height of the mosquito season was reached, a condition which could not possibly have existed if hand labor or machinery had been employed.

The 40-acre lake on the south side of Carbondale was abundant with cattail growths and pond lilies in a number of small bays, and there was also a fine growth of grass around the edges, making it an ideal place for the breeding of *Anopheles* mosquitoes. The water level in the lake was dropped 18 inches by cutting the outlet spillway, and a great reduction in breeding was at once apparent. The bays were cleared of the cattails and pond lilies, and portions of the surface and the edges oiled through the season. A careful examination in September failed to find any breeding, when in May before the work started, as many as 200 larvae could be secured in a single dip with a small dipper.

The ditches and streams in the area were carefully regraded, rechanneled, cleared and kept in proper condition throughout the season for oiling. All ditches and other collections of water in the area were oiled each week. Frequent inspection showed that almost perfect control was established on natural breeding places.

The most troublesome part of the campaign was the control of rain-barrels and other man maintained breeding places. In June, out of 664 open wells and cisterns, mosquito breeding was found in 391. Of these wells and cisterns 584 were immediately stocked with *gambusia*. A later inspection of 60 wells and cisterns showed that the minnows were performing their work well, only two cisterns being found breeding, and the fish had apparently been removed from these.

The control of breeding in rain-barrels and tubs was accomplished by regular house-to-house inspections. In June, the first inspection showed 1,030 containers, 831 being rain-barrels and tubs, which were found breeding mosquitoes. The second inspection in June caught 296 containers breeding. The third inspection caught breeding in 154 and the fourth inspection 206. On the fifth inspection every container in the city was oiled. On the sixth inspection only 19 containers were found with larvae. On the seventh inspection only 7 and on the eighth inspection only 11 were found to be breeding mosquitoes. By the height of the mosquito season, almost perfect control had been established.

The cost of the work was as follows:

Dynamite Ditching (Permanent work)	$1,200.00
Regrading Ditches	592.80
Ditch Maintenance	251.20
Oiling	447.48
Supplies and Incidentals	54.65
Fish Control	50.40
Inspections	202.00
Total	$2,798.53

Exclusive of the dynamite ditching, which was permanent work, the cost was $1,598.53.

At the close of the season a house-to-house canvass was made to determine the number of malaria cases. Physicians' estimates were also secured. It was found by the house-to-house canvass that 19 cases existed during 1922 as compared to 267 which existed in 1921. By the physicians' estimates it was found that the work resulted in reducing malaria from about 300 cases in 1921 to 54 cases in 1922. The work was continued at Carbondale in the succeeding years with continued success and at a cost of approximately $1,000 per year.

Permanent Arrangements for Mosquito Control.—Carbondale furnishes the striking example of a city that has enthusiastically carried on systematic mosquito control for the prevention of malaria and reduction of the mosquito nuisance for seven consecutive years. Two years ago the Carbondale Mosquito-Abatement District was organized under the provision of a new act of legislature which permits a municipality and surrounding territory to so organize and levy taxes for mosquito control purposes. This arrangement has put the work at Carbondale on a permanent basis.

In addition two other mosquito abatement districts have been organized and effective work is being carried out. These districts are the North Shore and DesPlaines River Valley Mosquito-Abatement Districts. The DesPlaines River District is exceptionally well organized and the work of that District is under the direction of an ex-

ceptionally competent, and experienced sanitary engineer.

With adequate provision for financing mosquito control projects now available the future of such work in Illinois seems well assured, especially for the built-up communities where malaria or mosquitoes constitute a problem.

For rural malaria control, in the southern counties, because of the focalized nature of the distribution of cases, it may be feasible to carry on a few relatively unimportant drainage operations and accomplish much good. But basically success in the prevention of malaria in rural districts will depend on educational measures which will bring about proper screening and simple protective measures and bring all of the cases of malaria under the care of the physician, so that the mosquitoes will no longer have access to infected persons.

DISCUSSION

Mr. J. Lyell Clarke, Sanitary Engineer, DesPlaines Valley Mosquito Abatement District, Riverside: Upon two occasions I have visited the site of the first permanent English settlement on the shores of this continent. I have read the history of the Jamestown settlement. This island site was chosen in order to protect the colonist from land attack by the Indians. Between the island and the peninsula is a large fresh water swamp. Malaria mosquitoes are there now and no doubt were there then. Half the colonists died during the first year. One of the old records states that the site was abandoned because of "epidemicals" so that we may read between the lines that to this first English settlement the malaria mosquito was a greater potential enemy and a more deadly one than the savage.

In the report of the U. S. Department of Agriculture of 1910 there is a summary of drainage work accomplished since 1880. This report describes the reclamation of enormous swampy areas in the states of Iowa, Indiana, and Illinois, and attributes the decrease in malaria incidence to agricultural drainage. In support of this claim it gives the death rates from malaria in these states before and after drainage. The reduction in malaria is very striking.

It goes further: it gives the malaria death rates in the states along the Mississippi south of Cairo, to show that in this area, where very little drainage had been accomplished up to that time, malaria death rates remained about the same.

In Washington County, Mississippi, between 1915 and 1922, $2,600,000 was spent for agricultural drainage. During that period malaria was reduced 56 per cent., bringing about a benefit to public health of over $1,000,000.00.

It is thus evident that malaria control is a by-product of agricultural drainage. The question which confronts us now is whether or not we should rest complacently and be contented to rely upon the slow process of agricultural drainage and better living conditions to rid Southern Illinois of malaria, or whether it would not be better to accelerate the downward trend of malaria by applying specific knowledge concerning the transmission of the disease, which is at hand and ready for use.

You have heard Mr. Dappert describe the conditions which exist in Southern Illinois. Malaria is not uniformly distributed over the entire area; it is spotty, a cluster of cases here and a cluster there. This holds true for both the hilly sections and the bottom lands. The only difference is that in the hills these foci of infection are farther apart.

Now that we know where malaria is and that it is kept going by one species of mosquito, and that that species breeds in ponds and that those ponds are always in flight range of the infected areas, would it not appear the problem is half solved? In any event the problem is clearly stated.

As I see it this is the formula. Try to form a picture in your mind. Malaria transmission consists of a chain of three links: two men and one mosquito. The first link is the sick man,—the chronic malaria carrier. The second link is the mosquito and the third link is the well man.

The most fragile link in this chain of transmission is the city bred malaria mosquito, and the strongest link is the rural bred malaria mosquito.

The mosquito is the same in both instances, the difference being that the cost of eliminating his breeding places is pro-rated over a greater number of persons.

In the Southern Illinois villages from 300 to 4,000 persons live on one square mile, and therefore, the cost of eliminating the breeding places ranges from one dollar per capita per year in the small villages to twenty-five cents or less in the larger villages. The mosquito link is, therefore, very weak. In the sparsely settled rural territory there are less than thirty persons per square mile and proportionately more mosquito breeding places, therefore, the cost of eliminating mosquitoes is very much greater per capita, about $50.00 per capita, a prohibitive cost. The mosquito link here then is entirely too strong to break.

But there are two other links. There is the sick man link and the well man link. The family physician must hammer on this sick man link with his quinine chisel and his mallet of insistence.

The family physician can also attempt to break the other link, the well man link. This he has not tried to do in the past. The well man link must be broken by protecting him from the mosquito bite. There are two methods of breaking this link. One must be used in conjunction with the other. The farm house must be properly screened, windows, doors, and chimneys; but this is not enough: all mosquitoes which gain entrance, and many come in when doors are opened, must be killed before they leave the house. Few physicians and fewer laymen appreciate the value of swatting the mosquito which has entered the house. This mosquito is more apt to be infective than those outside. The

value of killing the mosquito was first recognized by Mr. LePrince and tried out by him in his work in the Panama Canal Zone. I quote here a statement from his work in the Canal Zone:

During 1909 a number of camps were located along the new line of the Panama Railroad. Four of these camps, with an aggregate population of 1200, were located along twelve miles of the road at intervals of three or four miles.

It would have been costly to attempt drainage and oiling operations of sufficient magnitude to protect all these camps from malaria and it was decided to house the employes in screened cars, and to carry out daily mosquito catching in all of them. The number of Anopheles caught in the cars, which were surrounded by mosquito breeding places, reached 1800 a week. The malaria incidence in these camps was but slightly above the incidence for the Canal Zone.

Another instance of the employment of this prophylactic measure under more favorable conditions occurred near Corazal. In this case the camps were remote from native habitation. In June, 1908, several hundred United States Marines were quartered for two months on Diablo Hill. During that period the malaria incidence among them averaged 14 per cent. a week. No mosquito work was done. Some cars in which railroad laborers lived were located at the foot of the hill. From the early part of May to the end of November in the rainy season, when malaria incidence is high on the Isthmus, only four cases of malaria occurred among the forty laborers occupying these cars, a weekly incidence of 0.3%.

Since then Mr. LePrince's experiment has been verified by many malarialogists. Swatting them is a very valuable adjunct to screening.

Referring again to that middle link, the mosquito. Every village health officer should have a malaria survey made of his community. He has two alternatives. One is to organize a mosquito abatement district and eliminate all mosquitoes, or get an appropriation from his village council to control only the breeding of the malaria mosquito. If he attempts to form a mosquito abatement district he will need all of the publicity he can muster. On the other hand if he attempts to fight a lone battle with the malaria mosquito, he had better fight silently, taking malaria statistics before and after, and brag after he has accomplished his purpose. I give this timely warning because it has been my experience that it takes a long time to educate the public to differentiate between the malaria mosquito and the pestiferous mosquito.

My parting advice is to control breeding in club ponds in Southern Illinois. The data which Mr. Dappert presented does not give a true picture of the situation. It deals with only those who live near this pond, whereas thousands of persons fish and play golf in the vicinity of club ponds. These transient cases are accredited to the community in which they live.

The remedy is that the edges of the pond should be kept free from grass and floatage and stocked with minnows, or else the marginal grasses and lilies should be dusted with Paris Green mixed with 100 parts of lime or inert dust of some sort. Paris Green may be applied with a dusting machine such as is used to dust fruit trees. The treatment should be made from a boat. A club attendant could be assigned to the task of dusting the pond at weekly intervals. If this were done many such cases, the source of which heretofore have been unaccounted for, would disappear from the annual record in these towns.

MULTIPLE SENSITIZATION IN ALLERGIC DISEASES

SAMUEL J. TAUB, M. D.

Associate in Medicine, Northwestern University Medical School; Attending Staff Cook County and Washington Park Community Hospitals

CHICAGO

It is now generally accepted that many diseases are caused by sensitization of the body to some protein, either epidermal, furs, food, pollen, bacteria and a miscellaneous group such as orris root, pyrethrum, silk, kapok, etc. We know that sensitization to one or more of these proteins may cause asthma, hay fever, urticaria, eczema, angioneurotic edema, migraine, and possibly epilepsy. This sensitization or hypersensitiveness is determined by dissolving the suspected protein extract on a scratch in the epidermis or by injecting a small amount of the dissolved protein intradermally. The cutaneous "scratch" test is the method usually used because it is safest. The intradermal method is used only in patients suspected of pollen, dust, animal emanations and other miscellaneous sensitizations who give negative cutaneous reactions. Fatal results occasionally occur with the intradermal test, which offers ample reason for its abandonment for general use.

A positive test consists of an urticarial wheal, or at times an erythema, occurring usually within five to thirty minutes. Delayed reactions may occur eight to twelve hours later, particularly in food hypersensitiveness. I have available about 200 of these proteins exclusive of pollens and all of these proteins are used in testing each case of allergic disease. In a previous communication[1] I reported an asthma caused by canary feather protein and an eczema caused by silk. These cases emphasize the importance of making a sufficient number of tests on each patient and not just testing for the more common substances.

By multiple sensitization we mean sensitiza-

tion to any two or more unrelated substances. Patients who react to timothy pollen usually react also to other members of the Gramineae group, as red top grass, June grass, orchard grass, etc. Likewise, patients reacting to the pollen of ragweed will usually also react to other members of the Compositae, as giant ragweed, sunflower, cocklebur, etc. Brown[2] calls these group reactions and due to a similarity in the structure of the protein molecule. A person may be sensitive to some protein, such as a food with which he comes in frequent contact, even daily contact, and yet remain free from symptoms. Peshkin and Rost[3] and Rackemann[4] have found that about 10 per cent. of children without symptoms of allergy are sensitive to one protein or another. They are allergic but in equilibrium and the terminology, "balanced allergic state," has been advanced by Vaughn.[5] The tissues are able to handle a given amount of the allergen without upsetting the allergic balance. Desensitization from eating small amounts may be a factor. An overdose of the allergen will upset the equilibrium with onset of symptoms. One may be sensitive to two proteins, maintaining allergic balance while the contact is with only one but developing symptoms on exposure to both. Very often hay fever patients are not relieved during the season and have been further relieved by avoidance of a food or epidermal protein to which they were found to be sensitive after further skin tests were made.

Multiple sensitization can best be illustrated by reporting a few cases.

Case 1. S. S., a woman, 32 years old, who has had bronchial asthma for ten years. Reactions were obtained to:

Chicken feathers	+	
Dog hair	+	
Duck feathers	+	
Orris root 1:10,000	++++	Intradermal Test
House dust	++++	

All feathers were removed from contact to patient, orris root free powder was substituted for the ordinary kind and autogenous house dust treatment was given. The asthma stopped completely and she has remained well for the past year.

Case 2. S. S., a man, 28 years old, had asthma for the past eight years. Reactions were obtained to:

Crab	++++
Cheese	++
House dust	++++

These foods were eliminated and under autogenous house dust treatment, he has remained asthma free.

Case 3. Mrs. W. W. Diagnosis, allergic rhinitis. Reactions were obtained to goose feathers ++++, 1:1000 intracutaneous test; house dust +++; orris root ++++, 1:1000 intracutaneous test. Cutaneous tests were negative. On removal of feathers and contact to orris root, the sneezing stopped without further treatment.

Case 4. J. A. R., high school teacher, aged 38 years, had bronchial asthma since the age of three. Also has urticaria, hay fever, migraine, and eczema. Hay fever has been present since age of three and sneezing occurs from June 1 to the first frost. Migraine has been present since ten years ago. Urticaria has been present since childhood. Attack of migraine usually preceded an attack of asthma by two hours. An attack of urticaria often ended in migraine or asthma and often all three would be present at the same time. He thought the migraine was due to eggs and did not eat them for years.

Family History: An uncle, cousin and a sister have hay fever and asthma. There are two children who have no allergic disease at present.

Reactions were obtained to the following:

Camel hair	++	Garlic	+
Cat hair	++++	Catfish	+
Chicken feathers	+++	Crab	+
Goose feathers	++++	Sardine	++
Horse dander	++	Sole	+
Turkey feathers	+	Apricot	+++
Muskrat	+	Cantaloupe	+
Skunk	+++	Cherry	+
Brussel sprouts	++	Grapefruit	+
Celery	+++	Boxwood	+
Lettuce	+++	Cotton	+
Pea	++++	Orris root	+
Potato	++	Pyrethrum	++++
String bean	++	House dust	++++
Tomato	++	Silk	++++
Cloves	+		

Pollens: Orchard grass	+++
Timothy	+++
Red top	+++
Ragweed short	++++
Ragweed giant	+++
Sunflower	++++

In the treatment all feathers were removed and kapok was substituted. All foods giving reaction were eliminated. Grass mixture, mixed ragweeds, and autogenous house dust treatments were started. The attacks of asthma, migraine and urticaria became less severe and since the last month he is well and free of all symptoms.

Case 5. Mr. L. K. Diagnosis, allergic rhinitis. Negative to cutaneous tests. Intracutaneous tests to duck feathers 1:1000, ++++; orris root 1:1000, ++++.

Slight relief was obtained after removal of feathers from his environment. He noticed that sneezing would occur regularly after shaving and applying face powder. All contact to orris root was removed. An orris root free powder is being used and he is free of all symptoms since the past two months.

Case 6. Mr. H. G., aged 35 years. Diagnosis, hay fever and asthma. Has had hay fever past eight years and had some incomplete treatment for the past three years, with little results. Two years ago asthma developed at height of the hay fever season. He has had

(Continued from page 257)

CASES OF ACUTE FOOD SICKNESS
CHICAGO—1929

Date Investigated	Patients: Adults	Patients: Children	Suspected Food	Analysis of Suspected Food Actually Consumed	Probable Cause
1/26	*2	..	Imported canned shallots	Yes	B. Botulinus type B., tests positive
2/ 5	2	2	Tomato paste	No	Tests negative
2/10	4	..	Roast beef, shrimp salad, gravy	No	
2/21	2	..	Canned salmon, salad dressing	No	Methyl chloride. "Elec. refrig."
2/26	2	1	Roast beef, mashed potatoes, lettuce, rice pudding	No	
3/12	2	3	Cereal, milk, fruit	No	
3/21	3	..	Cheese tidbits	No	
3/28	2	4	Roast pork, mashed potatoes, gravy, canned pineapple, milk	No	
4/ 2	2	..	Fried chicken, biscuits, rice, gravy	Yes	Tests negative
4/ 4	2	1	Fried eggs, mashed potatoes, pea soup, milk	Yes	Tests negative
4/15	3	..	Ice cream, caramel, whipped cream	No	
4/16	4	4	Tainted frankfurters	No	
	30	15			

Grand total..... 45

Summary	Occurrences	Cases
B. Intoxication.....	1	2
Poisoning	1	2
	2	4

*One fatality.

no asthma after the hay fever season. Skin tests were positive for:

Ragweed short.....	++++	
Ragweed giant.....	++++	
Burweed marsh elder.....	++++	
Cocklebur	+++	
Sunflower	++++	
Orris root	++++	1:1000 intracutaneous
Pyrethrum	+	

Treatment included a combination of the ragweeds, burweed marsh elder and cocklebur, and an orris root free powder. Complete relief was obtained last year and asthma has not been present since the past year.

These cases of multiple sensitization, chosen from a number of similar ones, emphasize the importance of making a sufficient number of tests on each patient in order to detect all offending proteins and thus give these patients complete relief.

55 East Washington Street.

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ONLY ONE LINE

A few strokes carried the beach lifeguard to the side of the woman who had gone beyond her depth.

"Oh, save my hair! Save my hair!" she cried, pointing to a wig floating on the water.

"Madam," replied the guard, "I am only a lifesaver, not a hair restorer."

Society Proceedings

ADAMS COUNTY

The regular monthly meeting of the Society was called to order by the president, at 8:25 P. M., with thirty-three in attendance.

Dr. Carson Gabriel gave a talk on "Impressions of European Clinics." The remainder of the scientific program was conducted by the Des Moines County Medical Society of Iowa. Dr. George B. Crow of Burlington read a very interesting paper on "Essentials in Drug Therapy." This was discussed by Drs. John A. Koch, L. H. Nickerson, Walter Stevenson, E. B. Montgomery, J. C. Brown of Lewistown, Missouri, and was finally closed by Dr. Crow.

Following this, Dr. A. A. Eggleston of Burlington read an interesting paper on "Some Factors in the Diagnosis and Treatment of Carcinoma of the Stomach." Discussion of this paper was conducted by Drs. W. W. Williams, C. O. Molz, Aldo Germann, Frank Cohen, Warren Pearce, Harold Swanberg, and finally closed by Dr. Eggleston.

A rising vote of thanks was given the speakers for

their courtesy in making the trip to Quincy to address us.

COOK COUNTY

Chicago Medical Society Joint Meeting with Chicago Society of Industrial Medicine and Surgery, March 5

Methods of Determining Industrial Disability—F. M. Wilcox, Chairman, Industrial Commission, State of Wisconsin.

Fractures Near To and Involving Joints—Dr. F. N. Cloyd, Danville, Illinois.

Chicago Medical Society, Regular Meeting, March 19

Paroxysmal Tachycardia, by Harlow Brooks, Professor of Clinical Medicine, Bellevue Hospital, New York City. Discussion: M. Paul Starr, L. D. Snorff, Frederick Tice.

Chicago Medical Society, Regular Meeting March 26

Hearing Examination and Conservation (Motion Picture)—Austin A. Hayden. Discussion: John Theobald.

Cancer of the Larynx (Lantern Slides)—George Boot. Discussion: T. C. Galloway.

Personals

Dr. F. Garm Norbury of the Norbury Sanatorium, Jacksonville, Illinois, accompanied by his wife, sailed March 29th for Europe. They will tour France, then go to Amsterdam, Holland, where Dr. Norbury will do special work in the University of Amsterdam, Neurological Department under Prof. B. Brouwer, and later take a post-graduate course in psychiatry, Maudsley Hospital, London.

Dr. Roy D. McClure, Detroit, addressed the Chicago Surgical Society, March 7, on "Study of Complications of Cholecystectomy."

Dr. Nathan S. Davis III gave a talk on "Economic Problems of the Physician," March 9, at the Chicago Academy of Sciences, Lincoln Park.

Dr. Richard H. Jaffe gave an address at the Quine Library of the University of Illinois College of Medicine, March 19, on "The Faculty of the University of Vienna in 1830."

The Chicago Pathological Society was addressed March 10 on "Cavernous Hemangioma in Nodular Goiter" by Drs. George M. Curtis and P. Arthur Delaney and on "Lipoid Nephrosis" by Dr. Philip F. Shapiro.

Drs. Percival Bailey and Roy P. Grinker gave a "Practical Demonstration of Anatomy, Pathology and Symptomatology of Brain Abscess of Otogenic Origin," March 3, before the Chicago Laryngological Society.

The Chicago Gynecological Society was addressed March 21 by R. G. Gustavson, Ph.D., on "The Female Sex Hormone," and Dr. Edward L. Cornell presented a motion picture case report of an abdominal pregnancy with living child.

The Peoria City and County Medical Society was addressed, March 18, by Dr. Edwin W. Ryerson, Chicago, on "Chronic Arthritis" and "Ankylosed Joints, Arthroplastic Operations to Produce Mobility" and by Dr. Joseph A. Capps, Chicago, on "Pericarditis."

Dr. Simon Flexner, director, Rockefeller Institute for Medical Research, New York, delivered the Gehrmann lectures for 1929-1930 at the University of Illinois College of Medicine March 27-28. The first lecture was on "The Epidemiology of Poliomyelitis," and the second on "Epidemic and Postvaccinal Encephalitis and Allied Conditions."

The Chicago Society of Internal Medicine was addressed, March 24, by Drs. Jacob Meyer and Louis B. Kartoon on "Effects of Intravenous Injections of Foreign Protein on Peptic Ulcer"; Drs. Loyal E. Davis and Lewis J. Pollack, "Effect of Atropine on Skeletal Muscle Tonus," and Dr. Siegfried Maurer and Loh Seng Tsai, Ph.D., "Effect of Vitamin Deficiency on Learning Ability."

Dr. George Gellhorn, professor of obstetrics and gynecology, St. Louis University School of Medicine, delivered the annual Bacon lectures at the University of Illinois College of Medicine; the first lecture, March 6, on "Use of Local Anesthesia in Gynecology," and the second, March 7, on "Syphilis of the Uterus."

Dr. John A. Wolfer addressed the Lake County Medical Society, March 12, on "New Concepts of Gall Bladder Surgery."

At annual meeting of the Moline Physicians Club, March 9, the following officers were elected: Dr. Phebe Pearsall-Block, president; Dr. E. A. Edlen, vice-president; Dr. H. A. Beam, secretary; Dr. C. W. Koivun, treasurer.

News Notes

—The Chicago Council of Medical Women held the regular monthly meeting on April 4 at

the Medical and Dental Arts Club. A program was presented by Dr. Frances A. Ford, Mayo Clinic, on "Low Voltage Irradiation of the Ovary and Pituitary in Treatment of Menstrual Disorders," and Dr. Margaret Bell, Ann Arbor, Mich., on "Dysmenorrhea in College Girls."

—At the annual meeting of the Camp Directors Association, recently, it was recommended that examinations of all workers in kitchens in summer camps be insisted on. As a result of a study conducted by the National Safety Council, it was shown that camp illness and accidents, while few, are more prevalent among boys than girls. The object is to eliminate communicable disease and insure better health for campers.

—Governor Emmerson has proclaimed April 27 to May 3 as Health Promotion Week. May 1 will be Child Health Day. A program has been planned especially for civic leaders to disseminate information about preventive medicine, and themes have been suggested for addresses for the days designated as Health Sunday, Health Education Day, Dental Hygiene Day, Parent Education Day, Child Health Day, Vaccination Day and House Screening Day.

—Dr. Irving S. Cutter, dean, Northwestern University Medical School, recently announced that it is planned to erect on the McKinlock Campus, east of the present location of Passavant Memorial Hospital, a children's hospital and clinic as soon as funds are available. The estimated cost of the hospital is about $1,500,000, with a capacity of 100 beds. The hospital will be under the jurisdiction of Dr. Isaac A. Abt, professor of pediatrics at Northwestern.

—An intensive campaign of public health instruction in basic facts concerning hygiene, housing, sanitation and general health, given in Spanish by native Mexicans, has been inaugurated by the Municipal Tuberculosis Sanitarium, which now has 642 members of the Mexican colony under supervision for tuberculosis. The lectures are supplemented by moving pictures. Primers printed in Spanish will be distributed to encourage an understanding of sanitation in relation to tuberculosis. Health messages also are being printed in the Spanish newspapers.

—The vital statistics of Illinois for 1929 show that the excess of births over deaths in the state has decreased 42 per cent since 1921. Furthermore, the actual number of births reported annually dropped 11 per cent, while the birth rate per thousand of population for 1929 was 21 per cent below the rate for 1921. The birth rate for 1929 was 17.2 per cent per thousand of population, the lowest on record, and the death rate 11.7.

—Malaria is threatening to come back as a dominant health problem. Sharp increases in prevalence throughout the lower Mississippi valley have been observed during the last two years. The increase was noticed in Illinois at points much farther north than for many years previously. In its efforts to check the spread of malaria, the state department of health has arranged for a series of meetings with local medical societies in the southers part of the state to be addressed by Dr. Charles P. Coogle, specialist in malaria control, U. S. Public Health Service. The first lecture was given, March 24, at Harrisburg.

—The state health officer, Dr. Andy Hall, has issued a warning to druggists against prescribing remedies, in which he cites instances of patients becoming public charges. The most common illegal practice of druggists is probably the sale of alleged remedies for venereal diseases. One in each seven males admitted to the state hospitals for the insane and one in each seventeen females owe their mental condition to syphilis. Proper and prompt treatment of these patients immediately following infection would prevent some of these patients eventually coming in the state institutions. Druggists who prescribe a remedy for a symptom described by the customer are practicing medicine, and to do so without a license is contrary to law.

—At a meeting of the council of the Chicago Medical Society, March 11, a representative of the Chicago Retail Druggist Association proposed a plan to bring about a reduction of the high cost of medical care as it relates to pharmacy and also reduce self medication by the public. The proposal includes an educational campaign with talks by physicians, also the presentation to medical groups of the results of studies by pharmacists, and an exchange of articles in the bulletins of the Chicago Medical Society and the Chicago Retail Druggist Association. It is estimated that 12,000,000 prescriptions are filed annually in Chicago. Should physicians confine their prescribing to products

included in the United States Pharmacopeia, the National Formulary and New and Nonofficial Remedies, they would save the public about $4,000,000 annually. This plan will reduce the number of products in retail stores and seek to lessen the evils of counter prescribing and suggested self medication. The council of the Chicago Medical Society endorsed the proposition.

—The University of Illinois College of Medicine will soon undertake the construction of a $1,500,000 laboratory building on the site of the old Cubs ball park, at the southeast corner of Polk and Lincoln streets. The brick and stone structure, containing 2,200,000 cubic feet, will provide room for the departments of anatomy, chemistry, physiology, pathology and pharmacology, as well as class rooms. In its architectural features it will harmonize with the English collegiate gothic style of the research hospital, library building, various laboratories, nurses' home, power plant, and laundry, costing about $4,500,000, which have already been completed, and a building to be devoted to juvenile research which is nearing completion. Plans have been made to accommodate ultimately classes of 200 medical students and 100 dental students, though at the present time facilities in the clinical departments will not permit classes of this size. Near the site of the ball park is the new school of pharmacology. Since the present medical campus was acquired in 1922, the University of Illinois College of Medicine has steadily carried on a building program. When completed within the next few years, it will provide a medical plant comparable to the best in the country.

—St. Anthony's Hospital, Effingham, has recently installed elaborate apparatus for electrical and other physical therapy.

—The International Congress for Mental Hygiene, May 5-10, 1930, is to be attended by many foreign delegates. Some of these will be available for lecture engagements. Their interests cover a very wide range and it is probable that a suitable speaker could be found for most any group of interested human behavior. The National Committee for Mental Hygiene will provide information about these visitors, their subjects, their possible itinerary and availability to any organization interest. Apply to Dr. George S. Stevenson, 370 Seventh Avenue, New York.

Deaths

PIERCE J. FULLERTON, Irving, Ill.; University of Michigan Medical School, 1879; formerly Missouri and Pacific Railway physician at Dupo; aged 76; died, March 7.

CHARLES BYRON GRIFFITH, Chicago; Illinois Medical College, Chicago, 1910; a member of Illinois State Medical Society, aged 50; died, March 26, suddenly of chronic myocarditis, in dining room of Edgewater Beach Hotel. Dr. Griffith was a staff member of Lake View Hospital.

CHARLES W. HANFORD, Chicago; Medical Department of the University of the City of New York, 1891; a member of the American Radium Society; formerly consulting radium therapeutist to the Cook County Hospital and the Illinois Central Hospital; aged 60; died, February 14, at Martinsville, Ind., of heart disease.

WILLIAM CLARK HILL., Alton, Ill.; Rush Medical College, Chicago, 1880; aged 89; died, January 26, of cerebral hemorrhage.

JOHN N. KRAEMER, Belleville, Ill.; Beaumont Hospital Medical College, St. Louis, 1892; aged 71; died, February 11.

EDGAR H. LITTLE, East St. Louis, Ill.; Marion-Sims College of Medicine, St. Louis, 1900; formerly postmaster of East St. Louis; aged 57; died, March 1, of septicemia resulting from an infection received while operating on a patient in January.

NORVAL DOUGLASS MARBAKER, Chicago; Boston University School of Medicine, 1921; assistant director of the industrial health division of the National Saftey Council; aged 33; died, March 12, at Passavant Memorial Hospital, of septicemia, following an operation for appendicitis.

HUGH MUNRO MILLER, South Bend, Ind.; Northwestern University Medical School, 1902; founder of South Bend Clinic; a veteran of the World War; aged 51; died, in Chicago, March 14, of organic heart disease.

CHARLES ALEXANDER MOORE, East Alton, Ill.; Marion-Sims College of Medicine, St. Louis, 1895; a member of Illinois State Medical Society; aged 55; died, March 13, of heart disease.

EDWIN HARTLEY PRATT, Chicago; Hahnemann Medical College and Hospital, Chicago, 1873; aged 80; died, March 6, at Galva, Ill., of uremia.

ELDEN MAXWELL PRICE, Astoria, Ill.; Rush Medical College, Chicago, 1899; past president of the Fulton County Medical Society; served during the World War; aged 53; died, February 2, of pneumonia following influenza.

MARY A. SAGNER, Thomson, Ill.; Keokuk (Iowa) Medical College, 1902; aged 50; died, February 7, at the Jane Lamb Hospital, Clinton, Iowa, of nephritis.

JOHN SEGSWORTH, Wilmette, Ill.; University of Toronto, (Ont.) Faculty of Medicine, 1894; aged 63; died, February 18, at the Evanston (Ill.) Hospital, of coronary thrombosis.

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